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OM protein - protein search, using sw model

Run on: May 8, 2002, 11:46:20 ; Search time 10.16 Seconds (without alignments) 57.740 Million cell updates/sec

Title: Perfect score: US-09-647-457-2 16

Sequence: 1 LVVGLCTCQIKTGPAC 16

Scoring table: OLIGO Gapop 60.0 , Gapext 60.0

100059 seqs, 36664827 residues

Word size : 0 Searched:

Total number of hits satisfying chosen parameters: 100059

Minimum DB seq length: 0
Maximum DB seq length: 200000000

Post-processing: Listing first 45 summaries

Database : SwissProt_39:*

Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.

SUMMARIES

33	32	31	30	29	28	27	26	25	24	23	22	21	20	19	18	17	16	15	14	13	12	11	10	9	œ	7	σ	ഗ	4	ω	N	1	No.	Result
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Ĺ	31.2	۲	٢	1	-	1	۳	7.	7.	7	ω	Ψ	ω	ω.	Ψ	w	Ψ	ω.	43.8	ω.	ω	ω.	ω	w	ω	ω	ω	ω	w	ω.	ω	43.8	Match I	Query
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RESULT

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NU6M_PTYAL	NU6M_LATCH	NU6M_FRACR	NU6M_CARAU	NU6M_AETPY	NU6M_CYPCA	LSHB_HORSE	YSAA_ECOLI	YF47_SYNY3	RL27_PYRST	NU3C_WHEAT	NU3C_ORYSA
P43203 ptychoramph						P08751 equus cabal				P26303 triticum ae	

ALIGNMENTS

Qу	X D O	MPBLIT MPBLIT RRW SCOOL CCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCC
1 LVVGLCT 7 285 LVVGLCT 291	Ouery Match 43.8%; Score 7; DB 1; Length 335; Best Local Similarity 100.0%; Pred. No. 1.5; Matches 7; Conservative 0; Mismatches 0; Indels 0; Gaps 0;	LIUMAN STANDARD; PRT; 335 AA. HEBL_HUMAN STANDARD; CTATION; CT

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В
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                                                                                                                                                                                                                                       Matches
                                                                                                                                                                                                                                                    Query Match
Best Local :
                                             ENOA_ANAPL STANDARD; PRT; 433 AA.
P19140;
01-NOV-1990 (Rel. 16, Created)
01-NOV-1990 (Rel. 16, Last sequence update)
15-JUL-1998 (Rel. 36, Last annotation update)
ALPHA ENOLASE (EC 4.2.1.11) (2-PHOSPHO-D-GLYCERATE HYDRO-LYASE) (TAU-
          Anas platyrhynchos (
Eukaryota, Metazoa,
Archosauria, Aves;
                                                                                                                                                                                                                                                                                                    NON_TER
SEQUENCE
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                                                                                                                                        ANAPL
                                                                                                                                                                                                                                                                                                                                        METAL
METAL
 NCBI_TaxID=8839;
                                                                                                                                                                                                                                                                                                                                                                                                                              Pfam; PF00113;
                                                                                                                                                                                                                                                                                                                                                                                                                                                    ÉMBL; L28078; AAA53671.1; -. HSSP; P56252; 1PDY.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       01-NOV-1995 (Rel. 32, Created)
01-NOV-1995 (Rel. 32, Last sequence update)
15-JUL-1998 (Rel. 36, Last annotation update)
ENOLASE (EC 4.2.1.11) (2-PHOSPHOGLYCERATE DEHYDRATASE) (2-PHOSPHO-D-GLYCERATE HYDRO-LYASE) (FRAGMENT).
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                                                                                                                                                                                                                                                                                                                                                                                                                                        InterPro; IPR000941; Enolase.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Alligator mississippiensis (American alligator).
Eukaryota; Metazoa; Chordata; Craniata; Vertebrata;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       "Molecular evidence for the origin Proc. Natl. Acad. Sci. U.S.A. 91:26
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           MEDLINE=94195794; PubMed=8146164;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          SEQUENCE FROM N.A.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 NCBI_TaxID=8496;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Archosauria; Crocodylidae; Alligatorinae; Alligator
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               P42897;
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                                                                                                                                                                                        362 LVVGLCT 368
                                                                                                                                                                                                               1 LVVGLCT 7
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             THE DIMER (BY SIMILARITY).

PATHWAY: GLYCOLYSIS.

SUBUNIT: HOMODIMER (BY SIMILARITY).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 COFACTOR: MAGNESIUM IS REQUIRED FOR CATALYSIS AND
                                                                                                                                                                                                                                                                                                                                                                                       Glycolysis;
                                                                                                                                                                                                                                     l Similarity
7; Conserv
                                                                                                                                                                                                                                                                                                                                                                                                  00113; enolase; 1.
PD000902; Enolase; 1.
PS00164; ENOLASE; 1.
                                                                                                                                                                                                                                                                                                  395
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223
271
296
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                                                                                                                                                                                                                                                                                                               395
                                                                                                                                                                                                                                                                                                    AA;
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                       (Domestic duck).
; Chordata; Crani
           Neognathae;
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223
271
296
395
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                                                                                                                                                                                                                                    Score 7; DB 1
Pred. No. 1.7
0; Mismatches
                                                                                                                                                                                                                                                                                                                          MAGNESIUM
MAGNESIUM
MAGNESIUM
         Craniata; Vertebrata; Euteleostomi;
; Anseriformes; Anatidae; Anas.
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AGNESIUM (BY S
AGNESIUM (BY S
                                                                                                                                                                                                                                                                                                 B43E91228E9110B5 CRC64;
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o. 1.7;
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Y SIMILARITY).
Y SIMILARITY).
                                                                                                                                                                                                                                     0;
                                                                                                                                                                                                                                                           Length 395;
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                                                                                                                                                                                                                                   Gaps
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RESULT
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DT 20
DT 20
DT 20
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Best Local
                                                                                                                                               ONSJ4;
ONSJ4;
20-AUG-2001 (Rel. 40, Created)
20-AUG-2001 (Rel. 40, Last sequence update)
20-AUG-2001 (Rel. 40, Last annotation update)
20-AUG-2001 (Rel. 40, Last annotation update)
20-AUG-2001 (Rel. 40, Last annotation update)
ALPHA ENOLASE (EC 4.2.1.11) (2-PHOSPHO-D-GLYCERATE HYDRO-LYASE) (NON-NEURAL ENOLASE) (NNE) (PHOSPHOPYRUVATE HYDRATASE).
SEQUENCE FROM N.A. Chapman K.L., Newman Boot-Handford R., Wal
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           METAL
METAL
SEQUENCE
                                                                                                                                        Eukaryota; Metazoa; Chordata; Crania
Mammalia; Eutheria; Cetartiodactyla;
                                                                                                                                                                                                                                                                                                                                                                                                       BOVIN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 This SWISS-PROT entry is copyright. It is produced through a collaboration between the Swiss Institute of Bioinformatics and the EMBL outstation the European Bioinformatics Institute. There are no restrictions on its use by non-profit institutions as long as its content is in no way modified and this statement is not removed. Usage by and for commercial entities requires a license agreement (See http://www.isb-sib.ch/announce/or send an email to license@isb-sib.ch).
                                                                                                                       Bovidae; Bovinae;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          INIT_MET
ACT_SITE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            EMBL; M20749; AAA49218.1; -. EMBL; X14195; CAA32409.1; -. PIR; A32132; A32132.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 J. Cell Biol. 107:2729-2736(1988).
-i- EUNCTION: BOTH AN ENZYME AND A LEWS STRUCTURAL PROTEIN CHTALFILO ACTIVITY: 2-PHOSPHO-D-GLYCERATE = PHOSPHOENO
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    MEDLINE=89079778; PubMed=2462567; MEDLINE=89079778; PubMed=2462567; Milliams L.A.,
                                                                                            NCBI_TaxID=9913;
                                                                                                                                                                                                                                                                                                                                                                                 ENOA_BOVIN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 METAL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     PRINTS;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         PRINTS; PR00148; ENOLASE.
ProDom; PD000902; Enolase;
PROSITE; PS00164; ENOLASE;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Pfam; PF00113; enolase;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           HSSP; P56252; 1PDY
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 lens structural protein.";
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          SIMILARITY: BELONGS TO THE ENOLASE FAMILY.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 PATHWAY: GLYCOLYSIS.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     SUBCELLULAR LOCATION: CYTOPLASMIC.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               SUBUNIT: HOMODIMER.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   LVVGLCT
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Similarity
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157
244
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  man B.,
Wallis
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244
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              43.8%;
  Hillaby G.A.;
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MAGNESIUM
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Pred. No.
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                                                                                                                                     Craniata; Vertebrata; Eutel
actyla; Ruminantia; Pecora;
                                                                                                                                                                                                                                                                                                                                                                               PRT;
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AGNESIUM (BY SIMILARITY).
AGNESIUM (BY SIMILARITY).
1AED78B08A66E84D CRC64;
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                          M.C.,
                                                                                                                                                                                                                                                                                                                                                                            433
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. 1.9;
                        Freemont
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                     А.J.,
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                        Grant M.E
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Jong W.W.,
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      0;
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epiphyseal growth plate submitted (MAY-1999) to

enolase is upregulated in proliferative chondrocytes in seal growth plate and in human osteoarthritic tissue.";

and in human osteoarthritic tiss the EMBL/GenBank/DDBJ databases

CATALYTIC ACTIVITY:

"Alpha

-!- COFACTOR: MAGNESIUM IS REQUIRED FOR CATALYSIS AND FOR STABILIZING

2-PHOSPHO-D-GLYCERATE - PHOSPHOENOLPYRUVATE

STITE TO DESCRIPTION OF THE TEXT OF THE TE

THE DIMER (BY SIMILARITY).

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ENDA_CHICK STANDARD;

ENOA_CHICK STANDARD;

p51913;
01-OCT-1996 (Rel. 34, Created)
01-OCT-1996 (Rel. 34, Last sequence update)
15-JUL-1998 (Rel. 36, Last annotation update)
15-JUL-1998 (Rel. 36, Last annotation update)
ALPHA ENOLASE (EC 4.2.1.11) (2-PHOSPHO-D-GLYCERATE HYDRO-LYASE)
(PHOSPHOPYUVATE HYDRATASE).

Gallus gallus (Chicken).

Gallus gallus (Chicken).

Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostom
Eukaryota; Metazoa; Chordata; Galliformes; Phasianidae; Phasia
                                                                                                                                  SEQUENCE FROM N.A.
SEQUENCE FROM N.A.
STRAIN-WHITE LEGHORN; TISSUE-Kidney;
MEDLINE-9535305; PubMed-7629021;
Tanaka M., Maeda K., Nakashima K.;
"Chicken alpha-enolase but not beta-
"Chicken alpha-enolase but not beta-
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        This SWISS-PROT entry is copyright. It is produced through a collaboration between the Swiss Institute of Bioinformatics and the EMBL outstation the European Bioinformatics Institute. There are no restrictions on its use by non-profit institutions as long as its content is in no way modified and this statement is not removed. Usage by and for commercial entities requires a license agreement (See http://www.isb-sib.ch/announce/or send an email to license@isb-sib.ch).
                                                         tyrosine-phosphorylation site: cDNA cloning and analysis.";
J. Blochem. 117:554-559(1995).
-I- CATALYTIC ACTIVITY: 2-PHOSPHO-D-GLYCERATE =
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                InterPro; IPR000941; Enolase.
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SUBUNIT: HOMODIMER (BY SIMILARITY).

SUBCELLULAR LOCATION: CYTOPLASMIC (BY SIMILARITY).

SUBCELLULAR LOCATION: CYTOPLASMIC (BY SIMILARITY).

TISSUE SPECIFICITY: THREE CLASSES OF ENOLASE ISOENZYMES HAVE BEEN IDENTIFIED IN MAMMALIAN TISSUES. ISOENZYME ALPHA IS PRESENT IN MOST TISSUE, BETA IS LOCALIZED IN MUSCLE TISSUE, AND GAMMA IS FOUND ONLY IN NERVOUS TISSUE.

SIMILARITY: BELONGS TO THE ENOLASE FAMILY.
      COFACTOR: MAGNESIUM IS REQUIRED FOR CATALYSIS
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P06733; Q16704; Q9UM55;

Q1-JAN-1988 (Rel. 06, Created)

Q1-APR-1988 (Rel. 07, Last sequence update)

20-AUG-2001 (Rel. 40, Last annotation update)
ALDHA ENOLASE (EC 4.2.1.11) (2-PHOSPHO-D-GLYCERATE HYDRO-LYASE) (NON-NEURAL ENOLASE) (NNE) (PHOSPHOPYRUVATE HYDRATASE).
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Homo sapiens (Human).
Eukaryota; Metazoa; Chordata; Craniata; Ve
Mammalia; Eutheria; Primates; Catarrhini;
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                                                                                                                                                                                                                                                                                                                                                                                                                                             Giallongo A., Feo S., Moore R., Cr
"Molecular cloning and nucleotide
   Walter M., Leidenberger F.A., Schweppe K.W., "Autoreactive epitopes within the human alpha recognition by sera from patients with endome
                                                                                                                                                                                                                                                                                                 SEQUENCE FROM N.A. MEDLINE=90323004; PubMed=2373081;
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                                                                                           TISSUE=Endometrium; MEDLINE=96422099; PubMed=8824716;
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100.0%;
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sequence of a full-length cDNA for
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the European Bioinformatics Institute. There are no restrictions use by non-profit institutions as long as its content is in modified and this statement is not removed. Usage by and for con
entities requires a license agreement (See http://www.isb-sib.ch/announce/or send an email to license@isb-sib.ch).
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SUBCELLULAR LOCATION: CYTOPLASMIC.
SIMILARITY: BELONGS TO THE ENOLASE FAMILY.
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Ji H., Reid G.E., MOTITZ R.L., Eddes J.S., Buro
"A two-dimensional gel database of human colon
Electrophoresis 18:605-613(1997).
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[6]
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"Molecular cloning and expression
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MEDLINE=95307697; PubMed=7787969;
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SUBCELULAR LOCATION: CYTOPLASMIC.
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TISSUE SPECIFICITY: THREE CLASSES OF ENOLASE ISOENZYMES HAVE
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  Mismatches
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e in differentiated diffuse large
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RA Arakawa T., Hara A., Fukunishi Y., Konno H., Kondo S., Yamanaka I.,
RA Alzawa K., Izawa M., Nishi K., Kiyosawa H., Kondo S., Yamanaka I.,
RA Salto T., Okazaki Y., Gojobori T., Bono H., Kasukawa T., Salio R.,
RA Radota K., Matsuda H.A., Ashburner M., Batalov S., Casavant T.,
RA Kuchi P., Lewis S., Matsuo Y., Nikaido I., Pesole G., Quackenbush J.,
RA Kuchi P., Lewis S., Matsuo Y., Nikaido I., Pesole G., Quackenbush J.,
RA Schrimi L.M., Staubli F., Suzuki R., Tomita M., Wagner L., Washio T.,
RA Sakai K., Okido T., Furuno M., Aono H., Baldarelli R., Barsh G.,
RA Sakai K., Okido T., Furuno M., Aono H., Baldarelli R., Barsh G.,
RA Blake J., Boffelli D., Bojunga N., Carninci P., de Bonaldo M.F.,
RA Brownstein M.J., Bult C., Fletcher C., Fujita M., Gariboldi M.,
ROGUSTINCICh S., Hill D., Hofmann M., Hume D.A., Kamiya M., Lee N.H.,
RA Nordone P., Ring B., Ringwald M., Rodriguez I., Sakamoto N.,
RA Sasaki H., Sato K., Schoenbach C., Seya T., Shibata Y., Storch K.-F.,
RA Suzuki H., Toyo-oka K., Wang K.H., Weitz C., Whittaker C., Wilming L.,
RA Wyshaw-Boris A., Yoshida K., Hasecawa V Kawa-ii u Vale-vi-i c
                                the European Bioinformatics Institute. The use by non-profit institutions as long modified and this statement is not removed.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ENOA_MOUSE STANDARD; PRT; 433 AA.

P17182; Q9DCY7;

01-AUG-1990 (Rel. 15, Created)

20-AUG-2001 (Rel. 40, Last sequence update)

20-AUG-2001 (Rel. 40, Last annotation update)

ALPHA ENOLASE (EC 4.2.1.11) (2-PHOSPHO-D-GLYCERATE HYDRO-LYASE) (NON-
                                                                                                      This
                                                                                      between
                                                                                                                                                                                                                                                                                                                                               "Functional annotation of a Nature 409:685-690(2001).
                                                                                                                                                                                                                                                                                                                                                                                   Hayashizaki Y.;
                                                                                                                                                                                                                                                                                                                                                                                               Wynshaw-Boris A., Yoshida K.,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           MEDLINE=21085660; PubMed=11217851;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 SEQUENCE FROM
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  NCBI_TaxID=10090;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Eukaryota; Metazoa;
Mammalia; Eutheria;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Mus musculus (Mouse).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          ENO1 OR ENO-1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              "Nucleotide sequences mouse brain.";
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  MEDLINE=90301487;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 383
                                                                                                                                                    SUBCELLULAR LOCATION: CYTOPLASMIC.

TISSUE SPECIFICITY: THREE CLASSES OF ENGLASE ISOENZYMES HAVE
IDENTIFIED IN MAMMALIAN TISSUES. ISOENZYME ALPHA IS PRESENT 1
MOST TISSUES, BETA IS LOCALIZED IN MUSCLE TISSUE, AND GAMMA 1
FOUND ONLY IN NERVOUS TISSUE.
                                                                                                                                                                                                                                                                                             COFACTOR: MAGNESIUM IS
                                                                                                                                    SIMILARITY: BELONGS TO THE ENOLASE FAMILY.
                                                                                                                                                                                                                                         PATHWAY: GLYCOLYSIS
SUBUNIT: HOMODIMER.
                                                                                                                                                                                                                                                                              THE DIMER
                                                                                                                                                                                                                                                                                                                             CATALYTIC ACTIVITY:
                                                                                  SWISS-PROT entry is copyright. It is produced through sen the Swiss Institute of Bioinformatics and the EM
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               LVVGLCT 389
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an email to
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           N.A.
6J; TISSUE=Kidney;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Res. 18:3638-3638(1990).
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            PubMed=2362815;
X., Chalon P., Lelias J.M., Lamande N., Lucas M.,
license agreement (See license@isb-sib.ch).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Chordata;
Rodentia;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            of cDNAs alpha and
                                                                                                                                                                                                                                                                                                                               2-PHOSPHO-D-GLYCERATE = PHOSPHOENOLPYRUVATE
                                                                                                                                                                                                                                                                                             REQUIRED FOR CATALYSIS
                                                                                                                                                                                                                                                                                                                                                             full-length
                                                                                                                                                                                                                                                                                                                                                                                               Hasegawa Y.,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Craniata; Vertebrata; Sciurognathi; Muridae;
                                            There are no restrictions ng as its content is in
                                                                                                                                                                                                                                                                                                                                                               mouse
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            gamma
                 http://www.isb-sib.ch/announce/
                                                                                                                                                                                                                                                                                                                                                                                               Kawaji H.,
                            Usage
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; Murinae; Mus
                                                                                                                                                                                                                                                                                             FOR STABILIZING
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                                  and
                                                                                  EMBL outstation
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Best Local S
Matches 7
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P04764;
13-AUG-1987 (Rel. 05, Created)
13-AUG-1987 (Rel. 05, Last sequence update)
13-AUG-1998 (Rel. 36, Last annotation update)
15-JUL-1998 (Rel. 36, Last annotation update)
ALPHA ENOLASE (EC 4.2.1.11) (2-PHOSPHO-D-GLYCERATE HYDRO-LYASE) (NON-ALPHA ENOLASE)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        EMBL; X52379; CAA36605.1; -. EMBL; AK002336; BAB22021.1; -. PIR; S10246; S10246.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Lyase; Gi
INIT_MET
ACT_SITE
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SWISS-2DPAGE; P17182; MOUSE.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Sakimura K., Kushiya E., Obinata M., Takanasnı I.;
Sakimura K., Kushiya E., Obinata M., Takanasnı I.;
"Molecular cloning and the nucleotide sequence of cDNA t
non-neuronal enolase (alpha alpha enolase) of rat brain
Nucleic Acids Res. 13:4365-4378(1985).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 SEQUENCE
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     InterPro; IPR000941; Enolase.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            MGD;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Rattus norvegicus (Rat).
Eukaryota; Metazoa; Chordata;
Mammalia; Eutheria; Rodentia;
                                                                     This
                                                                                                                                                                                                                                                                                                                                                                                         Submitted (JAN-1986) to the EMBL/GenBank/DDBJ databases.
-I- CATALYTIC ACTIVITY: 2-PHOSPHO-D-GLYCERATE = PHOSPHOENOLPYRUVATE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Nucleic Acids [2]
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    SEQUENCE FROM N.A. MEDLINE=85242108; PubMed=2989793;
                                                                                                                                                                                                                                                                                                                                                                                                                                               Takahashi
                                                                                                                                                                                                                                                                                                                                                                                                                                                                      SEQUENCE FROM N.A.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          NCBI_TaxID=10116;
                                                 between
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           383 LVVGLCT 389
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                    SWISS-PROT entry is copyright. It is produced through a collaboration ween the Swiss Institute of Bioinformatics and the EMBL outstation - Buropean Bioinformatics Institute. There are no restrictions on its
                                                                                                                                              SUBCELLULAR LOCATION: CYTOPLASMIC.
TISSUE SPECIFICITY: THREE CLASSES OF ENOLASE ISOENZYMES HAVE BEEN IDENTIFIED IN MAMMALIAN TISSUES. ISOENZYME ALPHA IS PRESENT IN MOST TISSUES, BETA IS LOCALIZED IN MUSCLE TISSUE, AND GAMMA IS FOUND ONLY IN NERVOUS TISSUE.
                                                                                                                                                                                                                                                                                                                                                  COFACTOR: MAGNESIUM
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                                                                                                                         SIMILARITY: BELONGS TO THE ENOLASE FAMILY.
                                                                                                                                                                                                                                                                       PATHWAY: GLYCOLYSIS. SUBUNIT: HOMODIMER.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  e; Glycolysis; Magnesium; Magnesi
                                                                                                                                                                                                                                                                                                                     THE DIMER.
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; PS00164; ENOLASE;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 358
433 AA;
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100.0%;
     institutions
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Pred. No.
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MAGNESIUM (BY SIMILARITY).
MAGNESIUM (BY SIMILARITY).
L -> P (IN REF. 1).
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Craniata; Vertebrata; Euteleostomi; Sciurognathi; Muridae; Murinae; Rat
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      C90082CBA8290EB6 CRC64;
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  long
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. 1.9;
  There are no rest
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 and liver.";
                                                                                                                                                                                                                                                                                                                                                    STABILIZING
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Best Local
                                                                                                                                                                                                                                                                                                                                                                                                                       01-APR-1988 (Rel. 07, Created)
01-OCT-1986 (Rel. 34, Last sequence update)
01-OCT-1996 (Rel. 36, Last sequence update)
15-JUL-1998 (Rel. 36, Last annotation update)
BETA ENCLASE (EC 4.2.1.11) (2-PHOSPHO-D-GLYCERATE HYDRO-LYASE)
(PHOSPHOPYRUVATE HYDRATASE).
Gallus gallus (Chicken).
Gallus gallus (Chicken).
Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostc
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Lyase; Glycolysis; Magnesium; Multigene family.
INIT_MET 0 0 0
ACT_SITE 157 157 BY SIMILARITY.
METAL 244 244
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entities requires a license agreement (S
or send an email to license@isb-sib.ch).
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HSSP; P56252; 1PDY.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          METAL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ProDom; PD000902; Enolase;
PROSITE; PS00164; ENOLASE;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       PRINTS; PRO0148;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Pfam; PF00113; enolase;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          EMBL; X02610; CAA26456.1; -.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ENOB_CHICK P07322;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              SEQUENCE
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    InterPro; IPR000941; Enolase.
                                                                                                                                                                                                                                                                                           analysis
                                                                                                                                                                                                                                                                                                  "Chicken alpha-enolase but not beta-enolase has a Src-dependent tyrosine-phosphorylation site: cDNA cloning and nucleotide sequence analysis "
                                                                                                                                                                                                                                                                                                                                      MEDLINE=95355305; PubMed=7629021;
Tanaka M., Maeda K., Nakashima K.
                                                                                                                                                                                                                                                                                                                                                                   STRAIN=WHITE LEGHORN; TISSUE=Muscle;
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                                                                -!- PATHWAY: GLYCOLYSIS.
-!- SUBUNIT: HOMODIMER.
-!- SUBCELLULAR LOCATION: CYTOPLASMIC.
-!- SIMILARITY: BELONGS TO THE ENOLASE FAMILY.
                                                                                                                                                                                   Biochem. J. 236:115-126(1986)
                                                                                                                                                                                               enolase.
                                                                                                                                                                                                                                                     SEQUENCE
                                                                                                                                                                                                                                                                                                                                                                                SEQUENCE FROM N.A.
                                                                                                                                                                                                                                                                                                                                                                                                         NCBI_TaxID=9031;
                                                                                                                                       -!- COFACTOR: MAGNESIUM IS
                                                                                                                                                                                                            russell G.A., Dunbar B., Fothergill-Gilmore L.A.;
"The complete amino acid sequence of chicken skeletal-muscle
                                                                                                                                                                                                                          Russell G.A.,
                                                                                                                                                                                                                                        MEDLINE=87075592; PubMed=3539098;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    383 LVVGLCT 389
                                                                                                                                                                   -!- CATALYTIC ACTIVITY:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               1 LVVGLCT
                                                                                                                                                                                                                                                                               Biochem.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           v
                                                                                                                            THE DIMER.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Similarity
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Conservative
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               STANDARD;
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244
292
317
46984 .
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      43.8%;
                                                                                                                                                                    2-PHOSPHO-D-GLYCERATE = PHOSPHOENOLPYRUVATE
                                                                                                                                                                                                                          Fothergill-Gilmore L.A.;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 WW.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        score 7; DB 1
; Pred. No. 1.9
0; Mismatches
                                                                                                                                        REQUIRED FOR CATALYSIS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            0;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      agreement (See http://www.isb-sib.ch/announce/
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MAGNESIUM (BY SIMILARITY).
MAGNESIUM (BY SIMILARITY).
; F1A25F010C276E7C CRC64;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  433
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ENOB_HUMAN
IID ENOB_H
AC P13929
DT 01-JAN
DT 01-OCT
DT 20-AUG
DE BETA E
DE (SKELEE
GN ENO3.
OS HOMO S
OC MAMMAI
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RN [1]
RP SEQUEN
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RL Nuclei
RN [2]
RP SEQUEN
RX MEDLIN
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Best Local
               Biochem.
                           Peshavaria M., Day I.N.M.; "Molecular structure of the human muscle-specific enolase gene (ENO3).";
                                                              SEQUENCE FROM N.A. MEDLINE-91222137; PubMed=1840492;
                                                                                                                                       MEDLINE=90067857; PubMed=2587223; MEDLINE=90067857; PubMed=2587223; MEDLINE=90067857; PubMed=2587223;
                                                                                                                                                                                   ENO3.
Homo sapiens (Human).
Thervota; Metazoa; Chordata; Craniu...
Theria; Primates; Catarrhini;
                                                                                                                                                                                                                                                     01-JAN-1990 (Rel. 13, Created)
01-OCT-1993 (Rel. 27, Last sequence update)
01-OCT-1993 (Rel. 40, Last annotation update)
BETA ENOLASE (EC 4.2.1.11) (2-PHOSPHO-D-GLYCERATE HYDRO-LYASE)
(SKELETAL MUSCLE ENOLASE) (MSE).
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CONFLICT
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CONFLICT
CONFLICT
CONFLICT
                                                                                             Nucleic Acids
[2]
                                                                                                                       Peshavaria M., Hinks L.J., Day I.N.M.;
"Structure of human muscle (beta) enolase mRNA and protein deduced from a genomic clone.";
                                                                                                                                                                                                                                                                                                                                  P13929;
                                                                                                                                                                                                                                                                                                                                              ENOB_HUMAN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Lyase; GINIT_MET
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                SEQUENCE
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METAL
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PROSTTE; PS00164; ENOLASE; 1.
Lyase; Glycolysis; Magnesium; Multigene family; Acetylation.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Pfam; PF00113; enolase; 1 PRINTS; PR00148; ENOLASE.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      EMBL; D37901; BAA07133.1; -. PIR; A23850; A23850. HSSP; P56252; 1PDY.
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Pfam; PF00113; enolase; 1.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          or send an
                                                                                                                                                                                                                                                                                                                                                                                                            383 LVVGLCT 389
                                                                                                                                                                                                                                                                                                                                                                                                                                       1 LVVGLCT 7
                                                                                                                     genomic clone
                                                                                                                                                                                                                                                                                                                                                                                                                                                                Similarity 7; Conserv
             J. 275:427-433(1991)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   and this statement is not removed. Usage by and for commercial requires a license agreement (See http://www.isb-sib.ch/announce/an email to license@isb-sib.ch).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                Conservative
                                                                                                       Res.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               AA;
                                                                                                                                                                                                                                                                                                                                            STANDARD;
                                                                                                      17:8862-8862(1989)
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P -> L (IN REF. 2).

M -> V (IN REF. 2).

CK -> SH (IN REF. 2).

G -> D (IN REF. 2).

H -> D (IN REF. 2).

HT -> DP (IN REF. 2).

Y -> L (IN REF. 2).

Y -> L (IN REF. 2).

F -> S (IN REF. 2).

F -> A (IN REF. 2).

G -> A (IN REF. 2).

G -> A (IN REF. 2).

KT -> EQ (IN REF. 2).

KT -> EQ (IN REF. 2).
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MAGNESIUM (BY SIMILARITY).
MAGNESIUM (BY SIMILARITY).
                                                                                                                                                                                                                       Craniata; Vertebrata; Euteleostomi;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   ACETYLATION.
BY SIMILARITY.
                                                                                                                                                                                                                                                                                                                                            PRT;
                                                                                                                                                                                                                                                                                                                                                                                                                                                              Mismatches
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). 1.9;
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В

383 LVVGLCT

389

RESULT

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SHERE END OF BURKERS AND SHEET STATES AND SHEET 
Qy
                                                                             Query Match
Best Local
                                                     Matches
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EMBL; X51957; CAA36216.1; -.
EMBL; X55976; CAA3446.1; -.
EMBL; X55830; CAA40163.1; -.
EMBL; X55833; S15933.
PIR; S15933; S15933.
PIR; S06756; S06756.
PIR; S14759; S14759.
PIR; S31650; S31650.
PIR; S33330.
S15252; S33330.
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CONFLICT
SEQUENCE
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  HSSP; P56252; J
MIM; 131370; -
                                                                                                                                                                                                                                                                                                                                                                                                       ProDom; PD000902; Enolase; 1. PROSITE; PS00164; ENOLASE; 1.
                                                                                                                                                                                                                                                                                                                                                                                                                                                       Pfam; PF00113; enolase; 1
PRINTS; PR00148; ENOLASE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     -!- COFACTOR: MAGNESIUM IS REQUIRED FOR CATALYSIS AND FOR STABILIZING
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Eur. J. Biochem. 214:35/-3/4(1393).
-!- CATALYTIC ACTIVITY: 2-PHOSPHO-D-GLYCERATE = PHOSPHOENOLPYRUVATE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         SEQUENCE FROM N.A.

MEDLINE=90245587; PubMed=2336366;
Cali L., Feo S., Oliva D., Giallongo A.;
"Nucleotide sequence of a cDNA encoding the human muscle-specific encolase (MSE).";
                                                                                                                                                                                                                                                                                                                                                                                    yase; Glycolysis; Magnesium;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               InterPro;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    -!- PATHWAY: GLYCOLYSIS.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Differential splicing in the 5'-untranslated sequence generates
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        MEDLINE-93292497; PubMed-8513787;
Giallongo A., Venturella S., Oliva D., Barbieri G., Rubino
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        "Structural features of the human gene for muscle-specific enolase
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Feo S.;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   SEQUENCE FROM N.A.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     forms of mRNA.
                                                                          Local
1 LVVGLCT
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TISSUE SPECIFICITY: THREE CLASSES OF ENOLASE ISOENZYMES HAVE IDENTIFIED IN MAMMALIAN TISSUES. ISOENZYME ALPHA IS PRESENT I MOST TISSUE, BETA IS LOCALIZED IN MUSCLE TISSUE, AND GAMMA I FOUND ONLY IN NERVOUS TISSUE.
SIMILARITY: BELONGS TO THE ENOLASE FAMILY.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               P56252; 1PDY.
                                                Similarity 7; Conser
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            IPR000941; Enolase.
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157
244
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161
433
                                                  Conservative
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MAGNESIUM (BY SIMILARITY).

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V -> A (IN REF. 3).

K -> N (IN REF. 1 AND 2).
                                                0;
                                                                     Score 7;
Pred. No.
                                                                                                                                                                                                                                                                                                                                                                            Multigene family.
                                                                                                                                                                      5F726D743DEBF82F CRC64;
                                          Mismatches
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ENOB_MOUSE
ENOB_MOUSE
ID ENOB_MA
AC 201550
DT 01-NAY
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DT 01-VUL
DE BETA E
COC MAMMANIA
RA LAMMANIA
RA LAMMA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       MEDLINE-92290133; PubMed=1339335; Peterson C.A., Cho M., Rastinejad F., Blau H.M.; "Beta-enolase is a marker of human myoblast heterogeneity prior to differentiation.";
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 01-MAY-1991 (Rel. 18, Created)
01-AGG-1992 (Rel. 23, Last sequence update)
15-JUL-1999 (Rel. 38, Last annotation update)
BETA ENOLASE (EC 4.2.1.11) (2-PHOSPHO-D-GLYCERATE HYDRO-LYASE)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 entities requires a license agreement (See http://www.isb-sib.ch/announce/or send an email to license@isb-sib.ch).
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proc. Natl. Acad. Sci. U.S.A. 86:4445-4449(1989).
--i- CATALYTIC ACTIVITY: 2-PHOSPHO-D-GLYCERATE = PHOSPHOENOLPYRUVATE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              SEQUENCE OF 58-433 FROM N.A.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   SEQUENCE FROM N.A.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Lamande N., Brosset S., Keller A., Lucas M., Lazar M.; Submitted (SEP-1991) to the EMBL/GenBank/DDBJ databases
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               STRAIN-BALB/C; TISSUE-Liver;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         SEQUENCE FROM N.A.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Mus musculus (Mouse).
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                                                                                                                                                                                                                                                                                                                                                                                  EMBL; X61600; CAA43797.1; -. EMBL; X62667; CAA44540.1; -. EMBL; M20745; AAA37554.1; -. EMBL; X57747; CAA40913.1; -.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                MEDLINE=89282789; PubMed=2734297;
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                                                                                                                                                                                                                                                                                                   PIR; S17109; NOMSB.
PIR; A33921; A33921.
PIR; S29675; S29675.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   use by non-profit institutions as long modified and this statement is not removed.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  This SWISS-PROT entry is copyright. It is produced through a collaboration between the Swiss Institute of Bioinformatics and the EMBL outstation.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            "Murine muscle-specific enolase: cDNA cloning, sequence,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Lamande N., Mazo A.M., Lucas M., Montarras D.,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Legault-Demare L., Lazar M.;
  INIT_MET
ACT_SITE
                                                                                                                                                                                                                       MGD; MGI:95395; Eno3.
                                                                                                                                                                                                                                                        SWISS-2DPAGE;
                                                                                                                                                                      Pfam; PF00113; enolase;
                                                                                                                                                                                                InterPro; IPR000941; Enolase.
                                                          Lyase;
                                                                                       PROSITE;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             SIMILARITY: BELONGS TO THE ENOLASE FAMILY.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              SUBCELLULAR LOCATION: CYTOPLASMIC.
TISSUE SPECIFICITY: THREE CLASSES OF ENOLASE ISOENZYMES HAVE IDENTIFIED IN MAMMALIAN TISSUES. ISOENZYME ALPHA IS PRESENT I MOST TISSUES, BETA IS LOCALIZED IN MUSCLE TISSUE, AND GAMMA I FOUND ONLY IN NERVOUS TISSUE.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          PATHWAY: GLYCOLYSIS. SUBUNIT: HOMODIMER.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           COFACTOR: MAGNESIUM IS REQUIRED FOR CATALYSIS AND FOR STABILIZING
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          European Bioinformatics Institute. There are no
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Biol. 151:626-629(1992).
                                                          Glycolysis; Magnesium; Multigene family.
                                                                                                              PD000902;
                                                                                                                                            PR00148; ENOLASE.
                                                                                       PD000902; Enolase; 1. PS00164; ENOLASE; 1.
                                                                                                                                                                                                                                                        P21550; MOUSE.
                                                                                                                                                                                                                                                                               1PDY.
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METAL
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P25704; Q9N0N6;
01-MAY-1992 (Rel. 22, Created)
20-AUG-2001 (Rel. 40, Last sequence update)
20-AUG-2001 (Rel. 40, Last annotation update)
BETA ENOLASE (EC 4.2.1.11) (2-PHOSPHO-D-GLYCERATE HYDRO-LYASE)
(SKELETAL MUSCLE ENOLASE).
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                                                                                                                                                                                                                                                                                                                                                                                                            directed mutagenesis (E417L) of the gene, expression of the wild-type and mutant genes in Escherichia coli.";
Thesis (1995), Concordia University, Montreal / Quebec, Canada.
-i- CATALYTIC ACTIVITY: 2-PHOSPHO-D-GLYCERATE = PHOSPHOENOLPYRUVATE
                                                                                                                             the European Bioinformatics Institute. There are no restrictions on its use by non-profit institutions as long as its content is in no way most lide and this statement is not removed. Usage by and for commercial entities requires a license agreement (See http://www.isb-sib.ch/announce/or send an email to license@isb-sib.ch).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               "The
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Oryctolagus cuniculus (Rabbit).
Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
                                                                                                                                                                                                                                               -!- PATHWAY: GLYCOLYSIS.
-!- SUBGUNIT: HOMODIMER.
-!- SUBGULIUTAR LOCATION: CYTOPLASMIC.
-!- TISSUE SPECIFICITY: THREE CLASSES OF ENOLASE ISOENZYMES HAVE IDENTIFIED IN MAMMALIAN TISSUES. ISOENZYME ALPHA IS PRESENT I MOST TISSUES, BETA IS LOCALIZED IN MUSCLE TISSUE, AND GAMMA I FOUND ONLY IN NERVOUS TISSUE.
-!- SIMILARITY: BELONGS TO THE ENOLASE FAMILY.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Mammalia; Eutheria; Lagomorpha; Leporidae; Oryctolagus
                                                                       EMBL; AF260259; AAF71925.1; PIR; A37210; A37210. HSSP; P56252; 1PDY.
                                                                                                                                                                                                     This SWISS-PROT entry is copyright. It is produced through a collaboration between the Swiss Institute of Bioinformatics and the EMBL outstation.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                        "The cDNA cloning of rabbit muscle-specific enclase gene, site
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       TISSUE=Muscle;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    SEQUENCE FROM N.A.
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                                                         InterPro; IPR000941; Enolase
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                                                                                                                                                                                                                                                                                                                                                                     THE DIMER.
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MAGNESIUM
AG -> NA (
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MAGNESIUM (BY SIMILARITY).
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AG -> NA (IN REF. 3).
B318B76338ZD3FA8 CRC64;
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PRINTS; PR00148; ENOLASE. ProDom; PD000902; Enolase; PROSITE; PS00164; ENOLASE;

PF00113; enolase;

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                                                             the Buropean Bioinformatics Institute. The use by non-profit institutions as long modified and this statement is not removed. entities requires a license agreement (See or send an email to license@isb-sib.ch).
  EMBL;
                           EMBL; Y00979;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Sakimura K., Kushiya E., Ohshima-Ichimura Y., Mitsui H., Takahashi Y.;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 STRAIN-WISTAK;
MEDLINE-89121113; PubMed-2914621;
Takayama Y.,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          01-APR-1990 (Rel. 14, Last sequence update)
15-JUL-1998 (Rel. 36, Last annotation update)
BETA ENCLASE (EC 4.2.1.11) (2-PHOSPHO-D-GLYCERATE HYDRO-LYASE)
(SKELETAL MUSCLE ENCLASE).
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Takahashi Y.;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Rattus norvegicus (Rat).
Eukaryota; Metazoa; Chor
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        "Structure and expression of rat muscle-specific FEBS Lett. 277:78-82(1990).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        MEDLINE=91099531;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             FEBS Lett.
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Mammalia; Eutheria; Rodentia;
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INIT_MET
ACT_SITE
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TISSUE SPECIFICITY: THREE CLASSES OF ENOLASE ISOENZYMES HAVE
ITSSUE SPECIFICITY: THREE CLASSES OF ENOLASE ISOENZYMES HAVE
IDENTIFIED IN MAMMALIAN TISSUES. ISOENZYME ALCHA IS PRESENT I
MOST TISSUES, BETA IS LOCALIZED IN MUSCLE TISSUE, AND GAMMA I
FOUND ONLY IN NERVOUS TISSUE.
SIMILARITY: BELONGS TO THE ENOLASE FAMILY.
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SUBUNIT: HOMODIMER.
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                                                                                                                           SWISS-PROT entry is copyright. It is produced through a collaboration een the Swiss Institute of Bioinformatics and the EMBL outstation - European Bioinformatics Institute. There are no restrictions on its by non-profit institutions as long as its content is in no way
    x57774;
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CAA40920.1;
                      CAA68788.1;
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14, Last seq
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Pred. No.
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MAGNESIUM (BY SIMILARITY).
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Sciurognathi; Muridae; Murinae; Rat
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 PRT;
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SIUM (BY SIMILARITY).
D (IN REF. 1).
D (IN REF. 1).
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                                                                                 (See http://www.isb-sib.ch/announce/
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 433 AA.
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                                       TISSUE-Hematopoietic;
MEDLINE-91257823; PubMed-2045099;
Oliva D., Cali L., Feo S., Giallongo A.;
"Complete structure of the human gene en enolase.";
                                                                                                                                                     SEQUENCE FROM N.A.
                                                                                                                                                                                             normal and tumor tissues of human origin.";
J. Neurosci. Res. 19:450-456(1988).
                                                                                                                                                                                                                                                                                      van Obberghen
                                                                                                                                                                                                                                                                                                              MEDLINE=88259288; PubMed=3385803;
                                                                                                                                                                                                                                                                                                                                                                                                enolase.";
Gene 79:355-360(1989).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           McAleese S.M., Dunbar B., Fothergill J., Hinks L., Day "Complete amino acid sequence of the neurone-specific of enclase (NSE) from human brain and comparison with non-neuronal alpha form (NNE)."!
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             01-MAR 1989 (Rel. 10, Created)
01-MAR 1989 (Rel. 10, Last sequence update)
20-AUG 2001 (Rel. 40, Last annotation update)
GAMMA ENOLASE (EC. 4.2.1.11) (2-PHOSPHO-D-GLYCERATE HYDRO-LYASE)
                                                                                                                                                                                                                                     "Human gamma enclase: isolation of a cDNA clone and expression
                                                                                                                                                                                                                                                                                                                                                                                                                                SEQUENCE FROM N.A.
MEDLINE=90006764; PubMed=2792767;
Oliva D., Barba G., Barbieri G., Giallongo A., F
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Mammalia; Eutheria;
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InterPro; IPR000941; Enolase.
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7; Conser
                10:157-165(1991).
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Day I.N.M., Allsopp M.T.E.P., Moore D.C.M., Thompson R.J.;
"Sequence conservation in the 3'-untranslated regions of neurone-
specific enclase, lymphokine and protooncogene mRNAs.";
FEBS Lett. 222:139-143(1987).
                                                                                                                                                                              CONFLICT
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INIT_MET
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PIR; S02616; S02616.
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EMBL; M22349; AAB5954.1; -.
EMBL; M36768; AAA52388.1; ALT_INIT.
EMBL; X51956; CAA36215.1; -.
EMBL; U47924; AAB51320.1; -.
EMBL; X14327; CAA32505.1; -.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  SEQUENCE FROM N.A. MEDLINE=96303695; PubMed=8723724;
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MIM; 131360; -.
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TISSUE SPECIFICITY: THREE CLASSES OF ENOLASE ISOENZYMES HAVE BEEN IDENTIFIED IN MAMMALIAN TISSUES. ISOENZYME ALPHA IS PRESENT IN MOST TISSUE, BETA IS LOCALIZED IN MUSCLE TISSUE, AND GAMMA IS FOUND ONLY IN NERVOUS TISSUE.
SIMILARITY: BELONGS TO THE ENOLASE FAMILY.
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Similarity 7; Conserv
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ENOG_MOUSE
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01-AUG-1990 (Rel. 15, Last sequence update)
15-JUL-1998 (Rel. 36, Last annotation update)
GAMMA ENOLASE (EC 4.2.1.11) (2-PHOSPHO-D-GLYCERATE HYDRO-LYASE)
                                                                                                                                                                                                                                                                                     This SWISS-PROT entry is copyright. It is produced through a collaboration between the Swiss Institute of Bloinformatics and the EMBL outstation the European Bioinformatics Institute. There are no restrictions on its use by non-profit institutions as long as its content is in no way modified and this statement is not removed. Usage by and for commercial entities requires a license agreement (See http://www.isb-sib.ch/announce/
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Kaghad M., Dumont X., Chalon P., Lelias J.M., Lamande N.,
Lazar M., Caput D.;
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Mammalia; Eutheria;
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                                                                                                                                                                                                             EMBL; AC002397; AAC36002.1; PIR; S10247; S10247.
                                                                                                                                                                                                                                                                          or send an email to license@isb-sib.ch).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   -!- COFACTOR: MAGNESIUM IS REQUIRED FOR CATALYSIS AND FOR STABILIZING
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SEQUENCE
                                         Lyase; Glycolysis; Magnesium; Multigene family.
INIT MET 0 0
ACT_SITE 157 157
METAL 244 244 MAGNESIUM (BY SIMI
                                                                                                      Prodom; PD000902; Enolase; PROSITE; PS00164; ENOLASE;
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                                                                                                                                                    Pfam;
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                                                                                                                                                                  InterPro;
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SUBGUIT: HOMODIMER.
SUBGULTULAR LOCATION: CYTOPLASMIC.
SUBCELLULAR LOCATION: CYTOPLASMIC.
TISSUE SPECIFICITY: THREE CLASSES OF ENOLASE ISOENZYMES HAVE BEEN IDENTIFIED IN MAMMALIAN TISSUES. ISOENZYME ALPHA IS PRESENT IN MOST TISSUE, BETA IS LOCALIZED IN MUSCLE TISSUE, AND GAMMA IS FOUND ONLY IN NERVOUS TISSUE.
SIMILARITY: BELONGS TO THE ENOLASE FAMILY.
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                                                                                                                                     PR00148; ENOLASE.
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H., Chinault A.C., Belmo
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Rodentia;
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Belmont J.W., 1
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Miller W.,
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                                                                                                                                                                                                                                                                                                                                                                                                                                     Score
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AAG73945	AAG20165	AAY60045	AAB08264	AAW88640	AAB24774	AAG20166	AAY59964	AAR95493	AAY11445	AAB29816	AAW28191	AAB09384	AAY87436	AAW62337	AAW07465	AAY92115	AAR72638	AAY43201	AAW00294	AAY82822	AAY82821	AAY20333	AAU03503	AAB76807	AAG90949	AAB20279	AAM24149	AAY43200	AAW54357	AAW14001	AAB42064	AAB58877	AAY43192
Human colon cancer	Arabidopsis thalia	Human endometrium	Amino acid sequenc	Secreted protein e	Plant SDF encoded	۳.	Human endometrium	E21, monoclonal an	Human 5' EST secre	Human secreted pro	Staphylococcus aur	Hepatitis GB virus	Cationic antimicro	Bactolysin - antim	Antimicrobial cati	Fibroblast growth	Cladosporium herba	Schizophrenic deri	Penicillin V amido	4	Uroplakin tumour a	Human microtubule	Human protein kina	Corynebacterium gl	C glutamicum prote	Moraxella catarrha	Human EST encoded	Schizophrenic deri	Alpha Enolase. Ho	Enolase protein.	Human ORFX ORF1828	ovaria	=

ALIGNMENTS

RESULT AAY43191

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11-JAN-2000 (first entry)

AAY43191;

AAY43191 standard; peptide; 16

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CCC XXX
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                                                                                                                                                                                                                                         Schizophrenic derived antibody; binding epitope; schizophrenia; platelet-associated antibody; diagnosis.
                     Claim.2; Page 21; 37pp; English.
                                                                                                                                                                                                                       Synthetic.
                                                                                                                                                                                                                                                                          Schizophrenic derived antibody binding epitope #1
This sequence is a peptide of the invention, which binds antibodies found
                                          New peptides useful for diagnosis of schizophrenia
                                                                 WPI; 1999-611037/52
                                                                                      Shinitzky M,
                                                                                                           (YEDA ) YEDA RES & DEV CO LTD
                                                                                                                                  02-APR-1998;
                                                                                                                                                      30-MAR-1999;
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                                                                                       Deckmann M;
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                                                                                                                                                                                                                                                                    This sequence is a peptide of the invention, which binds antibodies found in elevated levels in body fluids of schizophrenic patients. The peptide is useful in an assay for the diagnosts of schizophrenia, by binding the peptide to a platelet-containing fraction of blood, or a fraction containing platelet-associated antibodies (PAA) shed from the platelets, or preferably whole blood. The new peptides are able to differentiate between plasma samples from schizophrenic and non-schizophrenic patients, and can do so without having to first isolate the platelet-associated
                                                                                                                                                                                                     Sequence
                                                                                                                                                                                                                                                        antibodies (PAA) fraction
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Claim 4; Page 21; 37pp; English.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                New peptides useful for diagnosis of schizophrenia
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Schizophrenic derived antibody; binding epitope; schizophrenia; platelet-associated antibody; diagnosis.
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                                               Score 8; DB 2; Pred. No. 0.0 0; Mismatches
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Pred. No. 3.8e-10;
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D. 0.057;
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                           Schizophrenic derived antibody; binding epitope; schizophrenia; platelet-associated antibody; diagnosis.
                                                                                                                 AAY43198;
                                                              Schizophrenic derived antibody binding epitope #8
                                                                                           11-JAN-2000
                                                                                                                                    AAY43198 standard; peptide;
                                                                                                                                                                                                                                                                                                        Sequence
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RESULT
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         Claim 4; Page 21; 37pp; English
                                                                       Shinitzky M,
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                             New peptides useful for diagnosis of schizophrenia
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                       This sequence is a peptide of the invention, which binds antibodies found in elevated levels in body fluids of schizophrenic patients. The peptide is useful in an assay for the diagnosis of schizophrenia, by binding the peptide to a platelet-containing fraction of blood, or a fraction containing platelet-associated antibodies (PAA) shed from the platelets, or preferably whole blood. The new peptides are able to differentiate between plasma samples from schizophrenic and non-schizophrenic patients, and can do so without having to first isolate the platelet-associated antibodies (PAA) fraction.
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                                                                                                                                                                                Claim 4; Page
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                                           Schizophrenic derived antibody; binding epitope; schizophrenia; platelet-associated antibody; diagnosis.
     Synthetic
                                                                                                                        Schizophrenic derived antibody binding epitope #5
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                                                                               Length 20;
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AAY43192
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Best Local :
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Claim 4; Page 21; 37pp; English.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          New peptides useful for diagnosis
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                     Schizophrenic derived antibody; binding epitope; schizophrenia; platelet-associated antibody; diagnosis.
                                                                                                         Schizophrenic derived antibody binding epitope #2.
                                                                                                                                                               11-JAN-2000
                                                                                                                                                                                                                                                                                 AAY43192 standard;
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                                 (HUMA-) HUMAN GENOME SCI INC
                                                                                                                                                   08-MAR-2000; 2000WO-US05881.
                                                                                                                                                                                                                                                                            WO200055173-A1
                                                                                                                                                                                                                                                                                                                                Homo sapiens
                                                                                                                                                                                                                                                                                                                                                                                                          Addison's disease; allergy; autoimmune haemolytic anaemia; autoimmune thyroiditis; diabetes mellitus; Crohn's disease; multiple sclerosis; rheumatoid arthritis; ulcerative colitis;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   nootropic; neurpprotective; antiviral; antiallergic; hepatotropic; antidiabetic; antiinflammatory; antiulcer; vulnerary; anticonvulsant; antibacterial; antifungal; antiparasitic; cardiant; immune disorder;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Breast and ovarian cancer associated antigen protein sequence SEQ ID 585
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     This sequence is a peptide of the invention, which binds antibodies found in elevated levels in body fluids of schizophrenic patients. The peptide is useful in an assay for the diagnosis of schizophrenia, by binding the peptide to a platelet-containing fraction of blood, or a fraction containing platelet-associated antibodies (PAA) shed from the platelets, or preferably whole blood. The new peptides are able to differentiate between plasma samples from schizophrenic and non-schizophrenic patients, and can do so without having to first isolate the platelet-associated
                                                                                               12-MAR-1999;
                                                                                                                                                                                                                 21-SEP-2000
                                                                                                                                                                                                                                                                                                                                                                                    cardiovascular disorder; wound healing; neurological disease
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nes 7; Conserv
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100.0%;
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Best Local :
                                                                                                                                                                                                 antianaemic; gene therapy; cancer; proliferative disorder; hypertension; neurodegenerative disorder; osteoarthritis; graft vs host disease; cardiovascular disease; diabetes mellitus; hypothyroidism; SCID; AIDS; cholesterol ester storage; systemic lupus erythematosus; infection; severe combined immunodeficiency; malaria; autoimmune disorder; asthma, allergy; aplastic anaemia; nocturnal haemoglobinuria; burn; wound; bone damage; cartilage damage; antiinflammatory disease; coagulation;
                                                                                                                                                                                                                                                                                                                                                                                                                                   immunostimulant; thrombolytic; coagulant; vasotropic; antidiabeti hypotensive; dermatological; immunosuppressive; antiinflammatory; antiviral; antibacterial; antifungal; antirheumatic; antithyroid;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        anticonvulsant; osteopathic; antiarthritic; immunosuppressant; cardiant;
immunostimulant; thrombolytic; coagulant; vasotropic; antidiabetic;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   antidiabetic; antiinflammatory; antiulcer; vulnerary; anticonvulsant; antibacterial; antifungal; antiparasitic and cardiant activity. The polynucleotide and protein sequences are used in the diagnosis of cancer, particularly breast and ovarian cancer. The nucleic acid sequences, proteins, agonists and agonists may also be used in the diagnosis, prevention and treatment of immune disorders e.g. Addison's disease, allergies, autoimmune haemolytic anaemia, autoimmune thyroiditis,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Sequences AAF21614 - AAF22031 represent DNA sequences encoding human proteins AAB59111 - AAB59128. The DNA and protein sequences are associated with breast and ovarian cancer. Included in the invention are sequences AAF22032 - AAF22040 and AAB59129 which are used in the isolation and characterisation of the DNA and protein sequences of the
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            vulnerary;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       08-FEB-2001
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           diabetes mellitus, Crohn's disease, multiple sclerosis, rheumatoid arthritis and ulcerative colitis; cardiovascular disorders such as myocardial ischaemias; wound healing; neurological diseases such as
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Human; open
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Human ORFX ORF1828 polypeptide sequence SEQ ID NO:3656
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Claim 11; Page 1022-1023; 1299pp; English.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 N-PSDB; AAF21780
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  anoxia and epilepsy; and infectious diseases.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    antipsoriatic; antiparkinsonian;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Ruben SM,
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              reading frame; ORFX; detection; cytostatic;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                (first entry)
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b. 5.2;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             nootropic; neuroprotective;
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WO200058473-A2 Homo sapiens.

cartilage damage; antiinflammatory disease;

05-OCT-2000

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RESULT
AAW1400
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                                                                                                                                                                                                                                                                                                                                                                                                                                               CC antipastiatic; antiparkinsonian; notropic; ineuroprotective;
CC antipastiatic; anticonvulsant; antiarthritic; immunosuppressant;
CC immunostimulant; cardiant; thrombolytic; coagulant; vasotropic;
CC antidiabetic; hypotensive; dermatological; immunosuppressive;
CC antiinflammatory; antibacterial; antiviral; antifungal; antirheumatic;
CC antityroid; and antianaemic. The sequences can be used for determining
CC presence of or predisposition to, or preventing or treating
CC pathological conditions associated with an ORFX-associated disorder. The
CC nucleic acids can be used to express ORFX proteins in gene therapy
CC vectors. The proteins and nucleic acids may be used to treat cancers,
CC proliferative disorders, neurodegenerative disorders, osteoarthritis,
CC protrension, hypothyroidism, cholesterol ester storage, systemic lupus
CC erythematosus, severe combined immunodeficiency (SCID), AIDS, viral,
CC ibacterial or fungal infection, malaria, autoimmune disorders, asthma,
CC allergies, aplastic anaemia, burns, wounds, bone and cartilage damage,
CC coagulation; to inhibit thrombosis; and as a contraceptive.
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                                                                                                                                                                                                                                                                                                                                               Matches
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Best Local (
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02-APR-1999;
05-APR-1999;
30-MAR-2000;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Novel nucleic acids and peptides derived from open reading useful for treating e.g. cancers, proliferative disorders, neurodegenerative disorders and cardiovascular disease -
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           which represent the human ORFX open reading frames 1 to 3161. The ORFX sequences have activities such as: cytostatic; hepatotropic; vulnerary;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Claim 11; Page 2810-2811; 5507pp; English.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  WPI;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Shimkets RA,
            JP08308584-A
                                                                                                                                                                                                        AAW14001 standard;
                                                                                                                                                                                                                                                                                                                                                                                                                        Sequence
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        AAC74446 to AAC77606 encode the proteins given in AAB40237 to AAB43397, which represent the human ORFX open reading frames 1 to 3161. The ORFX
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  31-MAR-2000;
                                        Homo sapiens
                                                                     enolase; radioisotope; antigen.
                                                                                      PCR;
                                                                                                                 Enolase protein
                                                                                                                                                 23-MAY-1997
                                                                                                                                                                             AAW14001;
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                                                                                   polymerase chain reaction; primer; amplify; tyrosine;
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99US-0127636.
99US-0127728.
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                                                                                                                                               entry)
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100.0%;
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Query Match
Best Local Similarity
7; Conserv
Search completed: May
Job time: 114 sec
                                                                            B
                                                                                                      Q
                                                                                                                                                                                                                                                        This sequence represents the wild type human enolase (NSE) protein. The primers represented by AAT60282-T66285 were used to amplify tyrosine introduced versions of this sequence. The introduced tyrosine residues combine a radioisotope in such a way as to have no substantial effect on the antigenicity of the protein. The peptides with the introduced tyrosine residue are prepared by expressing a recombinant DNA sequence, where the tyrosine residue has been introduced via an insertion or substitution into the wild type sequence. The peptides can then be used in radioimmunoassays, as the introduction of the label does not alter
                                                                                                                                                                                                                                                                                                                                                                                                                                              Introducing tyrosine residues into a protein for radioisotopic labelling - by substitution, addition and/or insertion to a DNA coding for the protein, antigenicity of the protein is unchanged labelling
                                                                                                                                                                                                                Sequence
                                                                                                                                                                                                                                                                                                                                                                                                                Disclosure; Page 10-11; 13pp; Japanese.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        19-MAY-1995;
                                                                                                                                                                                                                                           in radioimmunoassays, as the int
the antigenicity of the protein.
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                                                                      383 lvvglct 389
                                                                                                        1 LVVGLCT 7
                                                                                                                                                                                                                 433 AA;
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100.0%; Pr/
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Pred. No.
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219241 seqs, 76174552 residues
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Minimum DB seq length: 0
Maximum DB seq length: 2000000000

Total number of hits satisfying chosen parameters:

219241

Searched:

Post-processing: Minimum Match 0% Maximum Match 100% Listing first 45 summaries

PIR_68:*
1: pir1:*
2: pir2:*
3: pir3:*
4: pir4:*

Database :

Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.

SUMMARIES

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47.8	47.8	47.8	47.8	47.8	48.9	48.9	51.1	51.1	51.1	51.7	51.7	52.2	52.8	52.8	53.3
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protein-tyrosine k	hynothetical prote	soluble vascular e	phosphopyruvate hy	hypothetical prote	MSH1 protein - yea	collagen alpha 1(I	protein enolase F2	thionin precursor,	alpha-2-thionin -	phosphopyruvate hy	phosphopyruvate hy	phosphopyruvate hy	hypothetical prote	hypothetical prote	phosphopyruvate hy

ALIGNMENTS

RESULT 1 137360 phosphopyruvate hydratase (EC 4.2.1.11), lung - human N;Alternate names: enclase C;Species: Homo sapiens (man) C;Date: 21-Feb-1997 #sequence_revision 21-Feb-1997 #text_change 22-Jun-1999 C;Accession: 137360; S22071 R;Verma, M.; Kurl, R.N. Biochem. Int. 30, 293-303, 1993 A;Title: Human lung enclase: cloning and sequencing of cDNA and its inducibility w A;Reference number: 137360 A;Status: preliminary; translated from GB/EMBL/DDBJ A;Molecule type: mRNA A;Accession: 137360 A;Status: preliminary; translated from GB/EMBL/DDBJ A;Molecule type: mRNA A;Residues: 1-458 <-VER- A;Residues: 1-458 <-VER- A;Residues: 1-458 <-VER- A;Cross-references: EMBL:X66610; NID:g31178; PIDN:CAA47179.1; PID:g31179 A;Cross-references: EMBL:X66610; NID:g31178; PIDN:CAA47179.1; PID:g31179 C;Function: C;Function: catalyzes the reversible dehydration of 2-phospho-D-glyceric acid to A;Pathway: gluconeogenesis; glycolysis C;Superfamily: enclase C;Keywords: carabon-oxygen lyase; gluconeogenesis; glycolysis; hydro-lyase; magnesiuf; 42/Binding site: magnesium 2 (Ser) #status predicted F;219,364/Active site: Glu, Lys #status predicted F;254,308,336/Binding site: magnesium 1 (Asp, Glu, Asp) #status predicted F;254,308,336/Binding site: magnesium 1 (Asp, Glu, Asp) #status predicted	phosphopyruvate hydratase (EC 4.2.1.11), lung - human N;Alternate names: enolase C;Species: Homo sapiens (man) C;Date: 21-Feb-1997 #sequence_revision 21-Feb-1997 #te:C;Accession: I37360; S22071 R;Verma, M.; Kurl, R.N. Biochem. Int. 30, 293-303, 1993 A;Title: Human lung enolase: cloning and sequencing of A;Reference number: I37360 A;Accession: I37360 A;Accession: I37360 A;Status: preliminary; translated from GB/EMBL/DDBJ A;Molecule type: mRNA A;Rosidues: 1-458 <ver> A;Cross-reference: EMBL:X66610; NID:g31178; PIDN:CAA4-A;Note: submitted to the EMBL Data Library, June 1992 C;Function: A;Description: catalyzes the reversible dehydration of A;Pathway: gluconeogenesis; glycolysis C;Superfamily: enolase C;Keywords: carbon-oxygen lyase; gluconeogenesis; glycolysis C;Keywords: carbon-oxygen lyase; gluconeogenesis; glycolysis</ver>
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рb	Qy		
407	1 LVVGLCTCQIKTGPAC 16	Matches 14; Conservative	Query Match 82.2%; Score 74; DB 2;
		0; Mismatches 2; Indels	82.2%; Score 74; DB 2; Length 458;
		0;	
		0; Gaps	

0,

R:Hedges, S.B.

Proc. Natl. Acad. Sci. U.S.A. 91, 2621-2624, 1994

A;Title: Molecular evidence for the origin of birds.

A;Reference number: A53470; MUID:94195794

A;Accession: I50026

A;Status: preliminary; nucleic acid sequence not shown; translation not shown; translation in the content type: mRNA

A;Residues: 1-395 <HED> phosphopyruvate hydratase (EC 4.2.1.11) alpha - American alligator (fragment) N;Alternate names: alpha-enolase C:Species: Alligator mississippiensis (American alligator) C:Date: 21-Feb-1997 #sequence_revision 21-Feb-1997 #text_change 22-Jun-1999 C:Accession: I50026 RESULT 150026 N

A;Cross-references: GB:L28078; NID:g472796; PIDN:AAA53671.1; PID:g472797

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A; Molecule type: DNA
A; Residues: I-434 <OLZ>
A; Residues: I-434 <OLZ>
A; Residues: I-434 <OLZ>
A; Cross references: GB:X51956; NID:931164; PIDN:CAA36215.1; PID:931165
A; Cross references: GB:X51956; NID:931164; PIDN:CAA36215.1; PID:931165
A; McAleese, S.M.; Dunbar, B.; Fothergill, J.E.; Hinks, L.J.; Day, I.N.M.
Eur. J. Biochem. 178, 413-17, 1988
A; Title: Complete amino acid sequence
A; Reference number: S02077; MUID:89091176
A; Accession: S02077; MUID:89091176
                                                                                                                                                                                                                                                                                                                                     A;Cross-references: GB:M22349; NID:g951199; PIDN:AAB59554.1; R;Oliva, D.; Cali, L.; Feo, S.; Giallongo, A. Genomics 10, 157-165, 1991
                                                                                                                                                                                                                                                                                                                                                                                                                                                A;Reference number: JU0060; MUID:90006764
A;Accession: JU0060
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      N;Alternate names: enolase gamma; neuron-specific enolase c;Species: Homo sapiens (man) C;Date: 31-Mar-1990 #sequence_revision 31-Mar-1990 #text_change C;Accession: JU0060; S16163; S02077; I56569; S02616; S38303 R;Oliva, D.; Barba, G.; Barbieri, G.; Giallongo, A.; Feo, S. Gene 79, 355-360, 1989 Gene 79, 355-360, 1989
A; Molecule type: mRNA
A; Residues: 2-3,'Q',5-239,'M',241-434 <MCA>
A; Cross-references: EMBL:X13120; NID:g31145;
A; Cross-references: EMBL:X13120; NID:g31145;
                                                                                                                                                                                                                                                                          A; Accession: S16163
                                                                                                                                                                                                                                                                                         A; Title: Complete structure of the human gene encoding neuron-specific enolase A; Reference number: S16163; MUID:91257823
                                                                                                                                                                                                                                                                                                                                                                                                              A; Molecule type: mRNA
A; Residues: 1-434 <OL1>
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F;1/Modified site: acetylated
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A;Reference number: A37210; MUI
A;Accession: A37210
A;Status: preliminary
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       phosphopyruvate hydratase (EC 4.2.1.11) gamma - human
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             δÃ
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C;Keywords: carbon-oxygen lyase; hydro-lyase
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            A; Molecule type: protein
A; Residues: 1-433 <CHI>
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ;Reswords: acetylated amino end; carbon-oxygen
;Keywords: acetylated amino end (Ala) #:
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mes 13; Conser
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mary structure of rabbit muscle enolase
er: A37210; MUID:91113295
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81.2%;
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Pred.
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0.011;
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         PIDN:CAA31512.1;
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.012;
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#status experimental
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Length 433;
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       PID:g930063
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C;Species: Mus musculus (house mouse)
C;Date: 31-Mar-1992 #sequence-vision 31-Mar-1992 #text_change
C;Accession: S17109, S18036; S29675; A33921
R;Lamande, N.; Brosset, S.; Keller, A.; Lucas, M.; Lazar, M.
submitted to the EMBL Data Library, September 1991
A;Reference number: S17109
A;Accession: S17109
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       A;Description: catalyzes the reversible dehydration of 2-phospho-D-glyceric acid to A;Pathway: gluconeogenesis; glycolysis
C;Superfamily: enclase
C;Keywords: blocked amino end; brain; carbon-oxygen lyase; gluconeogenesis; glycolysis;2-434/Product: phosphopyruvate hydratase gamma #status predicted <MAT>
F;2-Modified site: blocked amino end (Ser) in mature form) (probably acetylated) ##
F;40/Binding site: magnesium 2 (Ser) #status predicted
F;210,343/Active site: Glu, Lys #status predicted
F;245,293,318/Binding site: magnesium 1 (Asp, Glu, Asp) #status predicted
A;Cross-references: EMBL:X61600; NID:g50848; PIDN:CAA43797.1; PID:g50849 R;Peterson, C.A.; Cho, M.; Rastinejad, F.; Blau, H.M. submitted to the EMBL Data Library, October 1991
                                                                                                         A; Molecule type: DNA
A; Residues: 1-434 <LAM>
                                                                                                                                                                                                                                                                                                                                                                                             N; Alternate names: enolase beta C; Species: Mus musculus (house m
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            R;Van Obberghen, E.; Kamholz, J.; Bishop, J.G.
J. Neurosci. Res. 19, 450-456, 1988
A;Title: Human gamma enolase: isolation of a cDNA clone A;Reference number: I56569; MUID:88259288
A;Accession: I56569
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A; Note:
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C; Function:
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A;Map position: 12p13-12p13
A;Introns: 29/1; 61/1; 80/3; 104/1; 148/3; 223/1; 289/1; 356/2;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             R;Harrington, C.R.; Quinn, G.B.; Hurt, J.; Day, I.N.M.; Wischik, C.M.
Biochim. Biophys. Acta 1158, 120-128, 1993
A;Title: Characterisation of an epitope specific to the neuron-specific isoform
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              FEBS Lett. 222, 139-143, 1987
A;Title: Sequence conservation in the 3'-untranslated regions of neurone-specific A;Reference number: S02616; MUID:88005129
A;Accession: S02616
                                                                                                                                                                                                                                                                                                                                                                                                                                                              phosphopyruvate hydratase (EC 4.2.1.11) beta -
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A; Residues: 425-434 <DAY>
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  A; Molecule type: mRNA
A; Residues: 'GC', 29-126, 'N', 128-434 <VAN>
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Pred. No. 0.012;
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A;Cross-references: EMBL:X57747; NID:g50846; PIDN:CAA40913.1; PID:g50847 R;Lamande, N.; Mazo, A.M.; Lucas, M.; Montarras, D.; Pinset, C.; Gros, F.; Legault-Demax Proc. Natl. Acad. Sci. U.S.A. 86, 4445-4449, 1989 A;Title: Murine muscle-specific enolase: cDNA cloning, sequence, and developmental expre A;Reference number: A33921; MUID:89282789 A;Accession: A33921
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A;Description: catalyzes the reversible dehydration of 2-phospho-D-glyceric acid A;Pathway: gluconeogenesis; glycolysis C;Superfamily: enolase C;Keywords: carbon-oxygen lyase; dimer; gluconeogenesis; glycolysis; hydro-lyase; F;40/Binding site: magnesium 2 (Ser) #status predicted F;210,343/Active site: Glu, Lys #status predicted F;245,293,318/Binding site: magnesium 1 (Asp, Glu, Asp) #status predicted
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        C;Keywords: carbon-carbon lyase; carbon-oxygen lyase; dimer; gluconeogenesis; glycolysis F;40/Binding site: magnesium 2 (Ser) #status predicted F;210,343/Active site: Glu, Lys #status predicted F;245,293,318/Binding site: magnesium 1 (Asp, Glu, Asp) #status predicted
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          phosphopyruvate hydratase (EC 4.2.1.11) ENO1 - African clawed N;Alternate names: enolase Enolase C:Species: Xenopus laevis (African clawed frog) C;Date: 31-Mar-1991 #sequence_revision 31-Mar-1991 #text_chang
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  A; Pathway: gluconeogenesis; glycolysis C; Superfamily: enolase
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A;Residues: 59-233,'NA',236-434 <LA2>
A;Cross-references: GB:M20745; NID:9193029; PIDN:AAA37554.1; PID:9387144
                                                                                                                                                                                                                          A; Gene: ENO1
C; Function:
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                                                                                                                                                                                                                                                                                                                                                    A; Molecule type: mRNA
A; Residues: 1-434 <SEG>
                                                                                                                                                                                                                                                                                                                                                                                                             A; Title: Enolase isoenzymes in adult and developing Xenopus laevis and characterization A; Reference number: S00463; MUID:88268812 A; Accession: S00463
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Best Local Similarity
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Query Match

.28;

Score 65;

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Length 434;

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A;Cross-references: GB:M11931; NID:g204041; PIDN:AAA41119.1; PID:g204042
R;Sakimura, K.; Kushiya, E.; Takahashi, Y.; Suzuki, Y.
Gene 60, 103-113, 1987
A;Title: The structure and expression of neuron-specific enclase gene.
A;Reference number: PQ0006; MUID:88152493
A;Accession: PQ0006
A;Mclecule type: DNA
A;Residues: 1-28 <SA2>
A;Cross-references: GB:M22770; GB:M18742; NID:g205766; PIDN:AAA41725.1; PID:g554480
C;Keywords: carbon-oxygen lyase; gluconeogenesis; glycolysis; hydro-lyase
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A;Title: Molecular cloning and the nucleotide sequence of cDNA for neuron-specific A;Reference number: A24742; MUID:86042683
A;Recession: A24742
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C;Species: Rattus norvegicus (Norway rat)
C;Date: 25-Oct-1987 #sequence_revision 25-Oct-1987;
C;Accession: A24742; PQ0006
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           phosphopyruvate hydratase (EC 4.2.1.11) alpha mouse
N;Alternate names: 2-phosphoglycerate dehydratase; enolase alpha
C;Species: Mus musculus (house mouse)
C;Date: 12-Feb-1993 #sequence_revision 12-Feb-1993 #text_change 22-Jun-1999
C;Accession: S10246; A56781
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                      A;Molecule type: protein
A;Residues: 'X',60,'X',62-67,'X',69-71;'XX',100-109,'X',111-112,'X',114;'X',184-18;
A;Experimental source: peritoneal macrophages
A;Note: sequence modified after extraction from NCBI backbone
C;Superfamily: enolase
                                                                                                                                                                                                                                                                                                                                                                                                                                 A;Title: Nucleotide sequences of cDNAs alpha and A;Reference number: S10246; MUID:90301487 A;Accession: S10246
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                                                                                                                                                                                                                                                                                             A;Cross-references: EMBL:X52379; NID:g55490; PIDN:CAA36605.1; PID:g55491 R;Bottalico, L.A.; Kendrick, N.C.; Keller, A.; Li, Y.; Tabas, I. Arterioscler. Thromb. 13, 264-275, 1993
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A; Residues: 1-434 <SAK>
                                                                                                                                                              A; Status: preliminary
                                                                                                                                                                                 A; Reference number: A56781; MUID:93152553
A; Accession: A56781
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                                                                                                                                                                                                                                                                A; Title: Cholesteryl ester loading of mouse peritoneal macrophages
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A; Residues: 1-434 <KAG>
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A;Accession: A29170
A;Molecule type: mRNA
A;Molecule type: mRNA
A;Rosidues: 1-434 <GIS>
A;Cross-references: GB:M14328; NID:g182113; PIDN:AAA52387.1; PID:g182114
A;Note: the authors translated the codon AAG for residue 193 as His
A;Note: M.; Leidenberger, F.A.; Schweppe, K.W.; Berg, H.; Northemann, V
submitted to the EMBL Data Library, February 1995
                                                                                                                                                                                                                                                                                                                                                                        A;Note: the nucleotide sequence was submitted to the EMBL Data Library, August 1989 R;Giallongo, A.; Feo, S.; Moore, R.; Croce, C.M.; Showe, L.C. Proc. Natl. Acad. Sci. U.S.A. 83, 6741-6745, 1986 A;Title: Molecular cloning and nucleotide sequence of a full-length cDNA for human alpha A;Reference number: A29170; MUID:86313654
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 C;Species: Homo sapiens (man)
C;Date: 19-Nov-1988 #sequence_revision 19-Nov-1988 #text_change
C;Accession: S11696; A29170; S52858; A39183
R;Giallongo, A.; Oliva, D.; Call, L.; Barba, G.; Barbieri, G.; Fur. J. Biochem. 190, 567-573, 1990
Eur. J. Biochem. 190, 567-573, 1990
A;Title: Structure of the human gene for alpha-enolase.
                                                                                                                                            A; Description: Autoreactive epitopes A; Reference number: S52858
A:Cross-references: EMBL:X84907; NID:g693932; PIDN:CAA59331.1; PID:g693933
                            A; Molecule type: mRNA
A; Residues: 1-251, 'S', 253-434 <WAL>
                                                                                     A; Status: preliminary
                                                                                                               A; Accession: S52858
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A; Residues: 1-434 <G
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A; Accession: S11696
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N;Allernate names: 2-phosphoglycerate dehydratase; enolase 1; enolase alpha
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C;Date: 12-Feb-1993 #sequence_revision 12-Feb-1993 #text_change 22-Jun-1999
C;Accession: S10247
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Pred. No.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              L.; Barba, G.; Barbieri, G.; Feo, S
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Mismatches
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 ; DB 2;
. 0.012;
                                                                                                                                                             the human alpha-enolase and their recognition
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   DB 2;
0.012;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    ω
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Length 434;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Length 434;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 0,
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A; Reference number: S02072; MUID:89121113
A; Accession: S02072

R;Ohshima, Y.; Mitsui, H.; Takayama, Y.; Kushiya, E.; Sakimura, K.; Takahashi, FEBS Lett. 242, 425-430, 1989

C; Species: Rattus norvegicus (Norway rat)

phosphopyruvate hydratase (EC 4.2.1.11) beta - rat

C;Date: 01-Dec-1989 #sequence_revision 01-Dec-1989 #text_change N; Alternate names: enolase beta; enolase, muscle-specific

22-Jun-1999

(beta-)

₽ Qy

384 LVVGLCTGQIKTGAPC

1 LVVGLCTCQIKTGPAC 16

Matches

Conservative

0;

Mismatches

ω -:

0;

Gaps

0;

C; Accession: S02072

NID:g57781; PIDN is inconsistent

PIDN:CAA68788.1; PI tent with that from

; PID:g57782 rom Fig. 2 in

'n

having 40

A; Molecule type: mRNA A; Residues: 1-434 < OHS>

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A;Cross-references: GB:X14195; NID:g62455; PIDN:CAA32409.1; PID:g62456 C;Superfamily; enolase C;Keywords: carbon-oxygen lyase; gluconeogenesis; glycolysis; hydro-ly:
                                                                                                                                                                                                                                                      R;Wistow, G.J.; Lietman, T.; Williams, L.A.; Stapel, S.O.; de Jong, W.W.; Horwitz, J. Cell Biol. 107, 2729-2736, 1988
A;Title: Tau-crystallin/alpha-enolase: one gene encodes both an enzyme and a lens; A;Reference number: A92750; MUID:89079778
A;Accession: A32132
                                                                                                                                                                                                                                                                                                                                                                                              phosphopyruvate hydratase (EC 4.2.1.11) alpha - duck N;Alternate names: enolase alpha; tau-crystallin C;Species: Anas platyrhynchos (domestic duck) C;Date: 21-May-1990 #sequence_revision 21-May-1990 #text_change 21-Jul-2000 C;Accession: A32132
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     C;Superfamily: enolase
C;Keywords: carbon-oxygen lyase; gluconeogenesis; glycolysis; hydro-lyase; magnesiu
F;2-434/Product: phosphopyruvate hydratase alpha #status predicted <MAT>
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      A:Experimental source: endometrium carcinoma cell line HEC-1B R;MileS, L.A.; Dahlberg, C.M.; Plescia, J.; Felez, J.; Kato, K.; Plow, E.F. Biochemistry 30, 1682-1691, 1991
A:Title: Role of cell-surface lysines in plasminogen binding to cells: identificati A:Reference number: A39183; MUID:91129243
A;Accession: A39183
                                                                                                                                                                                                A; Molecule type: mRNA
A; Residues: 1-434 <WIS>
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A;Map position: 1p36-1p36
A;Introns: 29/1; 61/1; 80/3; 104/1; 148/3; 223/1; 289/1; 356/2; 392/3; 412/2
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A; Residues: 170-182,'I',184,'R',186-190;245-252 <MIL>
  Query Match
Best Local :
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Matches
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Best Local Similarity
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  Similarity
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72.2%;
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Score 65; DB 2
Pred. No. 0.012
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0.012;
                       DB 2;
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                       Length 434
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A; Introns: 2
C; Superfamil
C; Keywords:
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A; Molecule type: mRNA
A; Residues: 1-84,'A, 86-161,'K',163-434 <CAL>
A; Residues: 1-84,'A, 86-161,'K',163-434 <CAL>
A; Residues: 1-84,'A, 86-161,'K',163-434-88; PIDN:CAA36216.1; PID:g34789
A; Giallongo, A.; Venturella, S.; Oliva, D.; Barbieri, G.; Rubino, P.; Feo, S.
Eur. J. Biochem. 214, 367-374, 193
A; Title: Structural features of the human gene for muscle-specific enclase. Differential A; Reference number: $33330, MUID:93292497
A; Accession: $33330
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             C;Species: Homo sapiens (man)
C;Date: 22-Jan-1993 #sequence_revision 22-Jan-1993 #text_change
C;Accession: S06756; S14759; S15933; S33330; S08685; S31650
R;Peshavaria, M.; Hinks, L.J.; Day, I.N.M.
Nucleic Acids Res. 17, 8862, 1989
A;Title: Structure of human muscle (beta) enolase mRNA and prote A; Reference number: S06756; MUID:90067857
A;Accession: S06756
                                  δÃ
                                                                                                                                                                                                                                                    A;Cross-references: GDB:119873; OMIM:131370
A;Map position: 17pter-17p12
A;Introns: 29/1; 61/1; 80/3; 104/1; 148/3;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     A;Cross-references: EMBL:X55976
R;Call, L.; Feo, S.; Oliva, D.; Giallongo, A.
Nucleic Acids Res. 18, 1893, 1990
A;Title: Nucleotide sequence of a cDNA encoding
A;Reference number: S15933; MUID:90245587
A;Accession: S15933
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Biochem. J. 275, 427-433, 1991
A;Title: Molecular structure of the human
A;Reference number: S14759; MUID:91222137
A;Accession: S14759
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                                                                                                                                                                                                                                                                                                                                                       A;Note: the nucleotide sequence was submitted to the EMBL Data Library, November 1990 C;Genetics:
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A; Residues: 1-161, 'K', 163-434 <GIA>
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            R; Peshavaria, M.; Day, I.N.M.
Biochem. J. 275, 427-433, 1991
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    phosphopyruvate hydratase (EC 4.2.1.11) beta - human N;Alternate names: enolase beta; enolase, skeletal m
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        밁
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                                                                                                                                                                                                                                                                                                                                                                                              A; Cross-references: EMBL: X56832; NID: g31166; PIDN: CAA40163.1; PID: g31167
                                                                                                                                                                                                                                                                                                                                                                                                                                                                      A; Status: nucleic acid sequence not shown; translation not shown
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                                                                                           Matches
                                                                                                                 Query Match
Best Local :
384
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                                         LVVGLCTCQIKTGPAC
                                                                                                                                                                                                       carbon-oxygen lyase; gluconeogenesis; glycolysis; hydro-lyase; muscle;
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                                                                                                               Similarity
                                                                                                                                                                                                                                     enolase
                                                                                        Conservative
                                                                                                            72.2%;
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                                                                                        0,
                                                                                                            Score 65; I
Pred. No. 0.
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Pred. No. 0.012;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  skeletal muscle; phosphopyruvate hydratase,
                                                                                                                                                                                                                                                         223/1; 289/1;
                                                                                                            DB 2;
0.012;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      the human
                                                                                                                                  Length 434;
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                                                                                                                                                                                                                                                         356/2;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    muscle-specific enolase (MSE)
                                                                                                                                                                                                                                                      392/3;
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A;Title: Chicken alpha-enolase but not beta-enolase has A;Reference number: JC4186; MUID:95355305 A;Accession: JC4187 A;Molecula to the control of the contr
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C;Keywords: acetylated amino end; ca
F;1/Modified site: acetylated amino
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           A;Cross-references: DDBJ:D37901; NID:g974177; PIDN:BAA07133.1; PID:g1616990 C;Comment: This is a glycolytic enzyme and multiple isoenzyme forms were reportates for tyrosine phosphorylation in Rous sarcoma virus and is important in
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        C;Accession: JC4187
R:Tanaka, M.; Maeda, K.; Nakashima,
J. Biochem. 117, 554-559, 1995
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 A;Experimental source: brain C;Comment: This is a glycolytic enzyme and multiple isoenzyme forms were reported rates for tyrosine phosphorylation in Rous sarcoma virus and is important in all t C;Superfamily: enclase C;Keywords: carbon oxygen lyase; hydro-lyase; phosphoprotein F;44/Binding site: phosphate (Tyr) (covalent) #status predicted
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C;Date: 10-Sep-1995 #sequence_revision 27-Oct-1995 #text_change 2: C;Accession: JC4186
R;Tanaka, M.; Maeda, K.; Nakashima, K.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          phosphopyruvate hydratase (EC 4.2.1.11) beta chain - chicken N;Altcarnate names: beta-2-phospho-D-glycerate hydrolase; enolase C;Species: Gallus gallus (chicken) C;Date: 14-Sep-1995 #sequence_revision 27-Oct-1995 #text_change 20-Jun-2000
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         J. Biochem. 117, 554-559, 1995
A; Title: Chicken alpha-enolase but not beta-enolase A; Reference number: JC4186; MUID:95355305
A; Accession: JC4186
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      A; Molecule type: mRNA
A; Residues: 1-434 < TAN>
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                                                                                                                                                                                                                                                                                                                                                                                                     Keywords: acetylated amino end; carbon-oxygen lyase; hydro-lyase; L/Modified site: acetylated amino end (Met) #status experimental
384
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                                                                                                                                                                                                                                                                                      score greater than or equal to the score of the result being and is derived by analysis of the total score distribution
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Match
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Gapop 10.0 ,
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Copyright (c) 1993 - 2000 Comp
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              Schizophrenic deri
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RESULT AAY43191

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AAY43191;

11-JAN-2000

(first entry)

AAY43191 standard; peptide;

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Schizophrenic derived antibody binding epitope #1

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NTS	ALIGNMENTS					
SO	AAW68008	20	780	47.8	43	
Truncated FLF Syr	AAK6248/ AAW47039	19 19	780	47.8	4 4 2 G	
minal	· w	18	758	47.8	4.3	
VEGF rece	\vdash	18	ū	7.	43	
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le VEGF r	70	19	8	7.	43	
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_	AAR62485	л c	ກດ	٦.	ر بر م	
ar alques usum Titl receptor ids	AAY9/59/	2 2	55/ 105/	47.8	 	
1 receptor	AAY97593	22	m	7	4.3	
t1 receptor	AAY97590	22	ıπ	7.	43	
t1 receptor	AAY97592	22	$\mathbf{\sigma}$	7.	43	
1 receptor	AAY97591	22	ťΠ	7.	43	
ophrenic	AAY43201	20	12	7.	43	
MSH1	AAR76070	16	V	œ	44	
MSH1	AAR76066	16	959	8	44	
ne	AAU14627	22	æ	8	44	
Cationic peptide	AAY91766	21	46		46	
Cationic peptide	AAW66467	19	46	H	46	
н	AAR12496	12	45	1.	46	
er c	AAP10420	N	45	51.1	46	
uence of antit	AAP10126	N	45	51.1	46	
s thal	AAG37551	21	469	6	51	
	AAG37552	21	444	56.7	51	
Arabidopsis thali	AAG37553	21	352	6.	51	
r.	AAG20164	21	78	σ.	51	
	AAG20165	21	77	5	51	
	AAG20166	21	83	56.7	51	
ο.	AAY43203	20	15		58	
phrenic	AAY43200	20	16	67.8	61	
Enolase.	AAW54357	19	433	2	65	
♣ Enolase protein.	AAW14001	18	433	72.2	5 6	

Hoperical Hoper

Schizophrenic derived antibody; binding epitope; schizophrenia; platelet-associated antibody; diagnosis. This sequence is a peptide of the invention, Claim 2; Page 21; 37pp; English. Shinitzky M, 02-APR-1998; WO9951725-A2. Synthetic. New peptides useful for diagnosis of WPI; 1999-611037/52 (YEDA) YEDA RES & DEV CO LTD 30-MAR-1999; 14-0CT-1999. Deckmann M; 98IL-0123925. 99WO-IL00190 schizophrenia which binds antibodies found

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RESULT
AAY43204
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                                                                                                                                                                                                                                                                                      This sequence is a peptide of the invention, which binds antibodies found in elevated levels in body fluids of schizophrenic patients. The peptide is useful in an assay for the diagnosis of schizophrenia, by binding the peptide to a platelet-containing fraction of blood, or a fraction containing platelet-associated antibodies (PAA) shed from the platelets, or preferably whole blood. The new peptides are able to differentiate between plasma samples from schizophrenic and non-schizophrenic patients, and can do so without having to first isolate the platelet-associated
                                                                                                                                                                                                                         Sequence
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Claim 4; Page 21; 37pp; English.
                                                                                                                                                                                                                                                                                antibodies
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      New peptides useful for diagnosis of schizophrenia
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Shinitzky M,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   02-APR-1998;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         30-MAR-1999;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            (YEDA ) YEDA RES & DEV CO LTD
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             14-OCT-1999
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                WO9951725-A2
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     platelet-associated antibody; diagnosis
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Schizophrenic derived antibody; binding epitope; schizophrenia;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              11-JAN-2000
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     AAY43204;
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                                                                                                                                                                                                                                                                       (PAA) fraction.
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                                                                                                          86.7%;
93.8%;
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Pred. No. 0.0002;
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Pred. No.
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                                                                                                                                   DB 20;
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                                                                                                                              Length 16;
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                                                                                                                                                                      RESULT
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AAY43197
                                                                                                                                                                                                                                                       Matches
                                                                                                                                                                                                                                                                   Query Match
Best Local
                                 Schizophrenic derived antibody; binding epitope; schizophrenia; platelet-associated antibody; diagnosis.
                                                                   Schizophrenic derived antibody binding epitope #8
                                                                                                                      AAY43198;
                                                                                                                                          AAY43198 standard; peptide;
                                                                                                                                                                                                                                                                                                                                               This sequence is a peptide of the invention, which binds antibodies found in elevated levels in body fluids of schizophrenic patients. The peptide is useful in an assay for the diagnosis of schizophrenia, by binding the peptide to a platelet-containing fraction of blood, or a fraction containing platelet-associated antibodies (PAA) shed from the platelets, or preferably whole blood. The new peptides are able to differentiate between plasma samples from schizophrenic and non-schizophrenic patients, and can do so without having to first isolate the platelet-associated
                                                                                              11-JAN-2000
                                                                                                                                                                                                                                                                                                                   Sequence
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   New peptides useful for diagnosis of
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Shinitzky M,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    02-APR-1998;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Synthetic.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Schizophrenic derived antibody; binding epitope; schizophrenia; platelet-associated antibody; diagnosis.
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15; Conser
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                                                                                                                                                                                                                                                       Conservative
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                                                                                                                                                                                                                                                                                                                                          fraction.
                                                                                                                                                                                                                                                                  86.7%;
93.8%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           antibody binding epitope #7.
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                                                                                                                                                                                                                                                                Score 78; DB 20;
Pred. No. 0.00021;
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                                                                                                                                                                                                                                                       Mismatches
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Best Local
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               is useful in an assay for the diagnosis of schizophrenia, by binding the peptide to a platelet-containing fraction of blood, or a fraction containing platelet-associated antibodies (PAA) shed from the platelets, or preferably whole blood. The new peptides are able to differentiate
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             New
                                                                                                                                                                                                                   Schizophrenic derived antibody; binding epitope; schizophrenia; platelet-associated antibody; diagnosis.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Claim
          Claim 4; Page 21; 37pp; English
                                                                      Shinitzky M,
                                                                                           (YEDA ) YEDA
                                                                                                                02-APR-1998;
                                                                                                                                     30-MAR-1999;
                                                                                                                                                        14-OCT-1999
                                                                                                                                                                            W09951725-A2
                                                                                                                                                                                                 Synthetic
                                                                                                                                                                                                                                                   Schizophrenic
                                                                                                                                                                                                                                                                        11-JAN-2000
                                                                                                                                                                                                                                                                                            AAY43202;
                                                                                                                                                                                                                                                                                                                AAY43202 standard;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          between plasma samples from schizophrenic and non-schizophrenic patients, and can do so without having to first isolate the platelet-associated
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          in
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         (YEDA ) YEDA
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                              New peptides useful for diagnosis
                                                                                                                                                                                                                                                                                                                                                                                                             Local Similarity
nes 15; Conser
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           elevated levels
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            peptides useful for
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   sequence is a
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                                                   1999-611037/52
                                                                                                                                                                                                                                                                                                                                                                   lvvglctpqiktgpac 16
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      3; Page 21; 37pp; English.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  (PAA) fraction
                                                                                                                                                                                                                                                                                                                                                                                                             Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         RES & DEV CO LTD
                                                                                                                                                                                                                                                                        (first entry)
                                                                                           RES & DEV CO LTD
                                                                                                                                                                                                                                                   derived antibody binding epitope #12
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Deckmann M;
                                                                        Deckmann
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                                                                                                                98IL-0123925.
                                                                                                                                     99WO-IL00190.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       peptide of the invention, which binds antibodies found in body fluids of schizophrenic patients. The peptide
                                                                                                                                                                                                                                                                                                                peptide;
                                                                                                                                                                                                                                                                                                                                                                                                                      86.7%;
93.8%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            diagnosis of schizophrenia
                                                                                                                                                                                                                                                                                                                 16
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                                                                                                                                                                                                                                                                                                                                                                                                                      Score 78;
Pred. No.
                                                                                                                                                                                                                                                                                                                                                                                                             Mismatches
                               of
                              schizophrenia
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                                                                                                                                                                                                                                                                                                                                                                                                                    .00021;
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Query Match Best Local Matches

l Similarity 13; Conser

Conservative

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Score 65; DB Pred. No. 0.01 0; Mismatches

DB 20; 0.013;

Length 17;

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RESULT AAY43196
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Best Local Similarity 81.7
Matches 13; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      This sequence is a peptide of the invention, which binds antibodies found in elevated levels in body fluids of schizophrenic patients. The peptide is useful in an assay for the diagnosis of schizophrenia, by binding the peptide to a platelet-containing fraction of blood, or a fraction containing platelet-associated antibodies (PAA) shed from the platelets, or preferably whole blood. The new peptides are able to differentiate between plasma samples from schizophrenic and non-schizophrenic patients, and can do so without having to first isolate the platelet-associated
                                                                                     This sequence is a peptide of the invention, which binds antibodies found in elevated levels in body fluids of schizophrenic patients. The peptide is useful in an assay for the diagnosts of schizophrenia, by binding the peptide to a platelet-containing fraction of blood, or a fraction containing platelet-associated antibodies (PAA) shed from the platelets, or preferably whole blood. The new peptides are able to differentiate between plasma samples from schizophrenic and non-schizophrenic patients, and can do so without having to first isolate the platelet-associated
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                                                                                                                                                                                                                                                                                                                                                        Claim
                                                                                                                                                                                                                                                                                                                                                                                                               New peptides useful for diagnosis
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Shinitzky M,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    02-APR-1998;
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1 lvvglctgqiktgapc 16
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                                                         so without having (PAA) fraction.
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                                                                                                                                                                                                                                                                                                                                                        37pp; English.
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Pred. No.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                            of schizophrenia
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      DB 20;
0.012;
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RESULT
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AC AAYA
XX AAYA
DT 11---
DT 11---
XX Schi
XX S
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AAY43195
ID AAY4
AC AAY4
AC AAY4
AC AAY4
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XX W Plat
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PR 02-2
PR 02-2
PR 02-2
PR WPI;
XX New
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Synthetic.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             This sequence is a peptide of the invention, which binds antibodies found in elevated levels in body fluids of schizophrenic patients. The peptide is useful in an assay for the diagnosts of schizophrenia, by binding the peptide to a platelet-containing fraction of blood, or a fraction containing platelet-associated antibodies (PAA) shed from the platelets, or preferably whole blood. The new peptides are able to differentiate between plasma samples from schizophrenic and non-schizophrenic patients, and can do so without having to first isolate the platelet-associated antibodies (PAA) shed from the platelet between plasma samples from schizophrenic and non-schizophrenic patients, and can do so without having to first isolate the platelet-associated
                                                                                                                                                                                                                         Schizophrenic derived antibody binding epitope #4
                                                                                                               platelet-associated
                                                                                                                                                                                                                                                                                                                                11-JAN-2000
                                                                                                                                                                                                                                                                                                                                                                                                                         AAY43194;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    AAY43194 standard; peptide; 19
                                                                                                                                                  Schizophrenic derived antibody;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Sequence
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             WPI; 1999-611037/52.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Page
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       20
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Conservative
     Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      (first entry)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              RES & DEV CO LTD
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Deckmann
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Ą
                                                                                                                                         AA;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                       21; 37pp; English.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  98IL-0123925.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        99WO-IL00190
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   peptide;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          72.2%;
81.2%;
                            72.2%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           X
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    0;
Score 65; DB
Pred. No. 0.01
0; Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Score 65; DB 20 Pred. No. 0.014; 0; Mismatches
                               DB 20;
0.019;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    'n
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                                                      Length 28;
     Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    0;
     0;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Gaps
     Gaps
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RESULT 11
AAB42064
ID AAB420
XX AAB420
XX AAB420
XX Human
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ם
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 31-MAR-1999;
02-APR-1999;
05-APR-1999;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    anticonvulsant; osteopathic; antiarthritic; immunosuppressant; cardiant; immunostimulant; thrombolytic; coagulant; vasotropic; antidiabetic; hypotensive; dermatological; immunosuppressive; antiinflammatory; antiviral; antibacterial; antiungal; antirheumatic; antithyroid; antianaemic; gene therapy; cancer; proliferative disorder; hypertension; neurodegenerative disorder; osteoarthritis; graft vs host disease; cardiovascular disease; diabetes mellitus; hypothyroidism; SCID; AIDS; cholesterol ester storage; systemic lupus erythematosus; infection; severe combined immunodeficiency; malaria; autoimmune disorder; asthma; allergy; aplastic anaemia; nocturnal haemoglobinuria; burn; wound;
                                                                                                                               antipscriatic; antiparkinsonian; nootropic; neuroprotective; osteopathic; anticonvulsant; antiarthritic; immunosuppressant; immunostimulant; cardiant; thrombolytic; coagulant; vasotropic; antidiabetic; hypotensive; dermatological; immunosuppressive; antiinflammatory; antibacterial; antiviral; antifungal; antirheumatic; antiinframmatory; antibacterial; antiviral; antifungal; antirheumatic; antithyroid; and antianaemic. The sequences can be used for determining the presence of or predisposition to, or preventing or treating pathological conditions associated with an OREX-associated disorder. The nucleic acids can be used to express ORFX proteins in gene therapy vectors. The proteins and nucleic acids may be used to treat cancers,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Human; open reading frame; ORFX; detection; vulnerary; antipsoriatic; antiparkinsonian;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Human ORFX ORF1828 polypeptide sequence SEQ ID NO:3656
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                08-FEB-2001
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    AAB42064 standard; Protein; 429
                             proliferative disorders, neurodegenerative disorders, osteoarthritis, graft vs host disease, cardiovascular disease, diabetes mellitus, hypertension, hypothyroidism, cholesterol setor second
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         AAC74446 to AAC77606 encode the proteins given in AAB40237 to AAB43397, which represent the human ORFX open reading frames 1 to 3161. The ORFX sequences have activities such as: cytostatic; hepatotropic; vulnerary;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Novel nucleic acids and peptides derived from open reading useful for treating e.g. cancers, proliferative disorders, neurodegenerative disorders and cardiovascular disease -
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   WPI; 2000-602362/57.
N-PSDB; AAC76273.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      WO200058473-A2
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Claim 11; Page 2810-2811; 5507pp; English.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            31-MAR-2000;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 05-OCT-2000
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Homo sapiens.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 bone damage; cartilage damage; antiinflammatory disease; coagulation;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       (CURA-) CURAGEN CORP.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    30-MAR-2000;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            2000WO-US08621.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    2000US-0540763
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Leach M;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 99US-0127607.
99US-0127636.
99US-0127728.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      27
                                    cholesterol ester storage, systemic lupus
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          cytostatic; hepatotropic;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     nootropic; neuroprotective;
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severe combined immunodeficiency

(SCID),

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RESULT 12
AAW14001
AD AAW14001
AC AAW140
AX AAW140
AX Enclas
XX PCR; p
KW PCR; p
KW enclas
XX Homo s
PN JP0830
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888888
                                                                                                           Matches
                                                                                                                                          Query Match
Best Local
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                                                                                                                                                                                                                                                                                              This sequence represents the wild type human enolase (NSE) protein. The primers represented by AAT60282-T60285 were used to amplify tyrosine introduced versions of this sequence. The introduced tyrosine residues combine a radioisotope in such a way as to have no substantial effect on the antigenicity of the protein. The peptides with the introduced tyrosine residue are prepared by expressing a recombinant DNA sequence, where the tyrosine residue has been introduced via an insertion or substitution into the wild type sequence. The peptides can then be used in radioimmunoassays, as the introduction of the label does not alter the antigenicity of the protein.
                                                                                                                                                                                                                                                 Sequence
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Introducing tyrosine residues into a protein for radioisotopic labelling - by substitution, addition and/or insertion to a DNA coding for the protein, antigenicity of the protein is unchanged
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Disclosure; Page 10-11; 13pp; Japanese
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                WPI; 1997-059703/06.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         19-MAY-1995;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               19-MAY-1995;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        PCR; polymerase chain i enolase; radioisotope;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       AAW14001 standard; Protein; 433 AA
     383
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   (EIKE ) EIKEN KAGAKU
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  26-NOV-1996
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Enolase protein
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   23-MAY-1997
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         AAW14001;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Sequence
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  bacterial or fungal infection, malaria, autoimmune disorders, asthma, allergies, aplastic anaemia, burns, wounds, bone and cartilage damage, nocturnal haemoglobinuria, antiinflammatory disease; to enhance coagulation; to inhibit thrombosis; and as a contraceptive.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  379
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lvvglctgqiktgapc 398
                                                     LVVGLCTCQIKTGPAC 16
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                                                                                                                                     Similarity
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                                                                                                                                                                                                                                                 433
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                                                                                                              Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              (first entry)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Conservative
                                                                                                                                                                                                                                                 AA;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         95JP-0145542
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                                                                                                                                  72.2%;
81.2%;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  reaction;
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                                                                                                              0
                                                                                                                                  Score 65; I
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Pred. No.
                                                                                                              Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  primer; amplify; tyrosine; human; NSE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    0
                                                                                                                                  DB 18;
0.2;
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0.2;
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                                                                                                           ω
                                                                                                                                                           Length 433;
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                                                                                                        Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Indels
                                                                                                      0;
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                                                                                                      Gaps
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  γď
                                                                                                      0;
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RESULT 13
AAW54357
ID AAW543
XX AAW543
XX AAW543
XX AAPha
AC AAW543
XX Endome
KW Endome
KW 2D gel
CX Homo s
XX Homo s
XX Homo s
YX W09810
XX W1501
XX W1601
XX 
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Best Local
                     WO9951725-A2
                                                                      Synthetic
                                                                                                                                           Schizophrenic derived antibody; binding
                                                                                                                                                                                               Schizophrenic derived
                                                                                                                                                                                                                                                 11-JAN-2000
                                                                                                                                                                                                                                                                                                   AAY43200
                                                                                                                                                                                                                                                                                                                                                  AAY43200 standard;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Proteins AAW54349-W54364 are examples of proteins produced in the endometrium during the hyperplasia, adenocarcinoma or proliferative phase of the endometrium. The presence and quantities of these proteins can be detected using 2D gel electrophoresis comparison of cell lysates. The proteins can be used as biochemical markers to detect the phase of the endometrium and can be measured in body fluids, obviating the need
                                                                                                                        platelet-associated
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Sequence
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Disclosure; Page 21; 77pp; English.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      diagnosis of hyperplasia and
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Biochemical markers of human endometrium - useful for,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                WPI; 1998-207057/18
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Byrjalsen I,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   06-SEP-1996;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                              383
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96GB-0018600
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                                                                                                                                                                                                                                                                                                                                                peptide;
                                                                                                                   antibody;
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                                                                                                                                                                                             antibody binding epitope
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Pred. No. 0
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0.2;
                                                                                                                                           epitope; schizophrenia;
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RESULT 1
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Best Local (
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Matches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    This sequence is a peptide of the invention, which binds antibodies found in elevated levels in body fluids of schizophrenic patients. The peptide is useful in an assay for the diagnosis of schizophrenia, by binding the peptide to a platelet-containing fraction of blood, or a fraction containing platelet-associated antibodies (PAA) shed from the platelets, or preferably whole blood. The new peptides are able to differentiate between plasma samples from schizophrenic and non-schizophrenic patients, and can do so without having to first isolate the platelet-associated
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    WPI;
                                                                                   WPI;
                                                            New
                                                                                                          Shinitzky M,
                                                                                                                                                            02-APR-1998;
                                                                                                                                                                                   30-MAR-1999;
                                                                                                                                                                                                                                    W09951725-A2
                                                                                                                                                                                                                                                          Synthetic
                                                                                                                                                                                                                                                                                  Schizophrenic derived antibody; binding epitope; schizophrenia; platelet-associated antibody; diagnosis.
                                                                                                                                                                                                                                                                                                                      Schizophrenic
                                                                                                                                                                                                                                                                                                                                              11-JAN-2000
                                                                                                                                                                                                                                                                                                                                                                       AAY43203;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Sequence
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Claim 4;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           New peptides useful for diagnosis of schizophrenia
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  (YEDA ) YEDA
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This sequence is a peptide of the invention, which binds antibodies found in elevated levels in body fluids of schizophrenic patients. The peptide
                                  Claim 4; Page 21; 37pp; English.
                                                                                                                                 (YEDA ) YEDA RES & DEV CO LTD
                                                                                                                                                                                                           14-0CT-1999
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                    2 VVGLCTCQIKTGPAC 16
                                                          peptides useful for diagnosis of schizophrenia
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                                                                                    1999-611037/52
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Page 21; 37pp; English.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      16 AA;
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                                                                                                                                                                                                                                                                                                                                             (first entry)
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Deckmann
                                                                                                           Deckmann M;
                                                                                                                                                                                                                                                                                                                      derived antibody binding epitope #13.
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1 lvvglctgqiktg 13
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92.38;
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Copyright (c) 1993 - 2000 Comr
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13
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                                 Q9ng71 limulus pol
Q9bt62 homo sapien
Q9bt62 homo sapien
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Q9w6d0 sphenodon p
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Q9ng67 tomocerus s
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Q9u5f7 eptatretus
Q96556 penaeus mon
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Q9ng70 peripatus s
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      Q9w712 sceloporus
Q9w711 trachemys s
Q9w710 python regi
python recalligator
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	Q9KMK7	N	88	31.2	ហ	45
	026173	Н	85	31.2	σ	44
Q9pvs5 oryzias lat	Q9PVS5	13	81	31.2	G	43
	047957	æ	80	31.2	ហ	42
. Q9h493 homo sapien	Q9H493	4	79	31.2	ហ	41
Q99qr4 streptomyce	Q99QR4	2	74	31.2	ហ	40
Q98181 molluscum c	Q98181	12	73	31.2	υı	39
O80086 bacteriopha	080086	9	72	31.2	υī	38
Q84043 influenza a	Q84043	12	71	-	ഗ	37
O60770 homo sapien	060770	4	63	31.2	ហ	36
Q9p0z4 homo sapien	Q9P0Z4	4	58	31.2	σı	35
Q9mb34 phaseolus v	Q9MB34	10	56	31.2	σı	34
P81902 bombyx mori	P81902	σ	55	31.2	ഗ	33
Q9pw52 poecilia re	Q9PW52	13	43	31.2	σı	32
Q9a5r6 caulobacter	Q9A5R6	N	36	31.2	ហ	31
Q9urb2 candida alb	Q9URB2	w	34	31.2	υī	30
Q9tsd2 bos taurus	Q9TSD2	σ	33	31.2	υī	29
ı	015021	4	2137		0	28
٠,	Q9PZW6	12	1242	•	Q	27
Q9pzw7 eastern equ	Q9PZW7	12	1242	37.5	σ	26
arabid	Q9SVH3	10	727	• -	σ	25
Q9qpu9 bovine herp	Q9QPU9	12	602	•	0	24
Q9sad9 arabidopsis	Q9SAD9	10	517		O	23
Q9exh5 listeria iv	Q9EXH5	N	230	37.5	6	22
Q9u6u0 mytilus gal	Q9U6U0	σ	82	37.5	6	21
Q9y0a9 mytilus gal	Q9Y0A9	տ	81	37.5	σ	20

ALIGNMENTS

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RESULT
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Q9NPL4
Q9NPL4;
Q9NPL4;
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Q1-OCT-2000 (TremBLrel. 15, Created)
Q1-OCT-2000 (TremBLrel. 15, Last sequence update)
Q1-JUN-2001 (TremBLrel. 17, Last annotation update)
Q1-JUN-2001 (TremBLrel. 17, Last annotation update)
ENOLASE (EC 4.2.1.11) (2-PHOSPHOGLYCERATE DEHYDRATASE) (2-PHOSPHO-D-GLYCERATE HYDRO-LYASE) (FRAGMENT).
                                                                                                                                       InterPro: IPR000941; Enclase.
Pfam; PF00113; enclase; 1.
PRINTS; PR00148; ENCLASE.
ProDom; PD000902; Enclase; 1.
                                                                                                                                                                                                                                                                                      THE DIMER (BY SIMILARITY).

-!- PARTHWAY: GLYCOLYSIS.

-!- SUBUNIT: HOMODIMER (BY SIMILARITY).

-!- SUBCELLULAR LOCATION: CYTOPLASMIC (
-!- SIMILARITY: TO THE ENOLASE FAMILY.

EMBL; AL359213; CAB94588.1; -.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Auffray C., Ansorge W., Ballabio A., Estivill Lehrach H., Poustka A., Lundeberg J.; The European IMAGE consortium for integrated human gene transcripts."; Submitted (JUN-2000) to the EMBL/GenBank/DDBJ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            SEQUENCE FROM N.A.
Andreu N., Estivill X.,
                              Glycolysis; Lyase; Magnesium.
NON_TER 1 1
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-!- COFACTOR: MAGNESIUM IS REQUIRED
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Mammalia; Eutheria; Primates;
                                                                                                            PROSITE; PS00164; ENOLASE;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Submitted (JUN-2000) to
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       SEQUENCE FROM N.A.
154 AA;
16937 MW;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       to the EMBL/GenBank/DDBJ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Ballabio A., Estivill X., Gibson Lundeberg J.;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Escarceller M., Sumoy the EMBL/GenBank/DDBJ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Craniata; Vertebrata; Euteleostomi; Catarrhini; Hominidae; Homo.
347B95809B1C864D CRC64;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      FOR CATALYSIS AND FOR STABILIZING
                                                                                                                                                                                                                                                                                                                                                               (BY SIMILARITY)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     L.;
databases.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           - PHOSPHOENOLPYRUVATE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          databases
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RESULT

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Best Local Similarity
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Q9NG70 PRELIMINARY; PRT; 159 AA.
Q9NG70;
Q9NG70;
01-OCT-2000 (TrEMBLrel. 15, Created)
01-CCT-2000 (TrEMBLrel. 15, Last sequence update)
01-JUN-2001 (TrEMBLrel. 17, Last annotation update)
ENOLASE (EC 4.2.1.11) (2-PHOSPHOGLYCERATE DEHYDRATASE) (2-PHOSPHO-D-GLYCERATE HYDRO-LYASE) (FRAGMENT).

Peripatus sp. 'Per3',
ENALTYOLS; MCHEROGA; Onychophora; Peripatidae; Peripatus.
                                                                                                                                                                               Q9NG71
Q9NG71
Q9NG71
Q1-CGT-2000 (TrEMBLrel. 15, Created)
01-CGT-2000 (TrEMBLrel. 15, Last sequence update)
01-UN-2001 (TrEMBLrel. 17, Last annotation update)
01-JUN-2001 (TrEMBLrel. 17, Last annotation update)
ENOLASE (EC 4.2.1.11) (2-PHOSPHO-D-GLYCERATE DEHYDRATASE) (2-PHOSPHO-D-GLYCERATE HYDRO-LYASE) (FRAGMENT).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     H(2)O.

-I- COPACTOR: MAGNESIUM IS REQUIRED FOR THE DIMER (BY SIMILARITY).

-I- PATHWAY GLYCOLYSIS.

-I- SUBUNIT: HOMODIMER (BY SIMILARITY).
SEQUENCE FROM N.A. STRAIN=LPO156_406;
                                                                                                    Limulus polyphemus (Atlantic horseshoe crab). Eukaryota; Metazoa; Arthropoda; Chelicerata; Limuldae; Limulus.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          PRINTS; PRO0148; ENOLASE.
ProDom; PD000902; Enolase; 1.
PROSITE; PS00164; ENOLASE; 1.
Glycolysis; Lyase; Magnesium.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 "Enolase as a phylogenetic marker.";
"Enolase as a phylogenetic marker.";
Submitted (APR-2000) to the EMBL/GenBank/DDBJ
-I- CATALYTIC ACTIVITY: 2-PHOSPHO-D-GLYCERATE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              SEQUENCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               EMBL; AF258667;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    -!- SUBCELLULAR LOCATION: CYTOPLASMIC -!- SIMILARITY: TO THE ENOLASE FAMILY.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        STRAIN-PER3248_407;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         SEQUENCE FROM N.A.
                                                                           NCBI_TaxID=6850;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Pfam; PF00113; enolase; 1.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 EMBL; AF258667; AAF72638.1; -. InterPro; IPR000941; Enolase.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                              138 LVVGLCT 144
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         104 LVVGLCT 110
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Local
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7; Conserv
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              159 AA;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    159
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         159
17582 MW;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        43.8%;
100.0%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  43.8%;
100.0%;
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Pred. No.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            840E266ACD36D3CD CRC64;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      FOR
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. 4;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               (BY SIMILARITY).
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   CATALYSIS AND FOR STABILIZING
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                <u>ب</u>
                                                                                                                            Merostomata;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Length 159;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    databases.
= PHOSPHOENOLPYRUVATE +
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             0;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Indels
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Best Local
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                                                                   Q99KT7;
                                                                                                                                                                                                                                                                                                                                                                    Q9BT62;
Q9BT62;
Q1-JUN-2001 (TrEMBLrel. 17, Created)
Q1-JUN-2001 (TrEMBLrel. 17, Last sequence update)
Q1-JUN-2001 (TrEMBLrel. 17, Last annotation updat
                      01-JUN-2001 (TrembLrel. 17, 01-JUN-2001 (TrembLrel. 17, 01-JUN-2001 (TrembLrel. 17, 01-JUN-2001 (TrembLrel. 17, SIMILAR TO ENOLASE 1, ALPHA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   NON_TER
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         THE LIFE YOUR STATEMENT OF THE PATHMAY: GLYCOLYSIS.
-!- PATHMAY: GLYCOLYSIS.
-!- SUBUNIT: HOMODIMER (BY SIMILARITY).
                                                                                                                                                                                                                                                 EMBL; BC004325; AAH04325.1; NON_TER 1 1
                                                                                                                                                                                                                                                                                                                                                             UNKNOWN (PROTEIN FOR IMAGE: 3629132) (FRAGMENT). Homo sapiens (Human).
                                                                                                                                                                                                                                                                                                                                                                                                                                Q9BT62
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 PRINTS; PR00148; ENOLASE.
PRODOM; PD000902; Enolase; 1.
PROSITE; PS00164; ENOLASE; 1.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             "Enolase as a phylogenetic marker.";
"Enolase as a phylogenetic marker.";
Submitted (APR-2000) to the EMBL/GenBank/DDBJ databases
-i- CATALYTIC ACTIVITY: 2-PHOSPHO-D-GLYCERATE = PHOSPHOI
   Eukaryota;
            Mus musculus (Mouse)
                                                                                                                                                                                                                                                                        Submitted
                                                                                                                                                                                                                                                                                  Strausberg
                                                                                                                                                                                                                                                                                                                                       Eukaryota; Metazoa;
Mammalia; Eutheria;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       SEQUENCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Pfam; PF00113; enolase; 1.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        -!- SIMILARITY:
EMBL; AF258666;
                                                                                                                                                                                                                                         SEQUENCE
                                                                                                                                                                                                                                                                                              TISSUE=CHORIOCARCINOMA;
                                                                                                                                                                                                                                                                                                        SEQUENCE FROM N.A.
                                                                                                                                                                                                                                                                                                                             NCBI_TaxID=9606;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Glycolysis; Lyase; Magnesium
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              -1- COFACTOR: MAGNESIUM IS REQUIRED FOR CATALYSIS AND FOR STABILIZING THE DIMER (BY SIMILARITY).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               InterPro;
                                                                                                                                       222
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       230 LVVGLCT 236
                                                                                                                                                                                            Local Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Local Similarity les 7; Conserv
                                                                                                                                                            1 LYVGLCT 7
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                                                                                                                                       LVVGLCT 228
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              IPR000941; Enolase.
                                                                                                                                                                                                                                                                      (MAR-2001) to the EMBL/GenBank/DDBJ databases
                                                                                                                                                                                                                                        272
   Metazoa;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      251 AA;
                                                                                                                                                                                  Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   251
                                                                               PRELIMINARY;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Conservative
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                                                                                                                                                                                                                                        AA;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        TO THE ENOLASE AAF72637.2; -.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      251
27452 MW;
   Chordata;
                                                                                                                                                                                                                                        29883 MW;
                                                                                                                                                                                                                                                                                                                                          Primates;
                                                                                                                                                                                            43.8%;
100.0%;
                                                                                                                                                                                                                                                                                                                                                    Chordata;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            100.0%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       43.88;
                                17, Created)17, Last sequence update)17, Last annotation updat
                        NON-NEURON
                                                                                                                                                                                 0;
                                                                                                                                                                                           Score 7;
Pred. No
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 0;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Score 7;
Pred. No
  Craniata;
                                                                                                                                                                                                                                                                                                                                          Catarrhini;
                                                                                                                                                                                                                                                                                                                                                    Craniata; Vertebrata;
                                                                                                                                                                                                                                                                                                                                                                                                                                PRT;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     FAMILY
                                                                                                                                                                                                                                        08F1755ADEA88D0C CRC64;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       DEE7B1BA7A87693F CRC64;
                                                                                                                                                                                  Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Mismatches
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                                                                                                                                                                                            DB 4;
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                        (FRAGMENT).
 Vertebrata;
                                                                               A
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                                                                                                                                                                                                                                                                                                                                          Hominidae;
                                 update)
                                                                                                                                                                                                                                                                                                                                                                                     update)
                                                                                                                                                                                                     Length 272;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 0;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Length 251;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               PHOSPHOENOLPYRUVATE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Indels
  Euteleostomi;
                                                                                                                                                                                                                                                                                                                                                    Euteleostomi;
                                                                                                                                                                                                                                                                                                                                        Homo.
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Best Local
                                                                                  Matches
                                                                                          Query Match
Best Local
                                                                                                                                                                                                                                                                                                                                                                                                                                                                01-NOV-1999 (TrEMBLrel. 12, Created)
01-NOV-1999 (TrEMBLrel. 12, Last sequence update)
01-JUN-2001 (TrEMBLrel. 17, Last annotation update)
ENOLASE (EC 4.3.1.11) (2-PHOSPHOGLYCERATE DEHYDRATASE) (2-PHOSPHO-D-GLYCERATE HYDRO-LYASE) (FRAGMENT).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Q9W6D3;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Strausberg K.,
Strausberg K.,
Strausberg K.,
Strausberg K.,
Strausberg K.,
Strausberg K.,
                                                                                                                                     METAL
SEQUENCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     EMBL; BC004017; AAH04017.1; -.

NON_TER 1 1
SECULARY 1
                                                                                                                                                                                               PRINTS; PRO0148; ENOLASE.
PRODOM; PD000902; Enolase; 1.
PROSITE; PS00164; ENOLASE; 1.
                                                                                                                                                                                                                                                  THE DIMER (BY SIMILARITY).

-!- PATHWAY: GLYCOLYSIS.
-!- SUBUNIT: HOMODIMER (BY SIMILARITY).
-!- SUBCELULAR LOCATION: CYTOPLASMIC (
-!- SIMILARITY: TO THE ENOLASE FAMILY.
EMBL; AF115859; AAD20346.1; -.
HSSP; P56252; IPDZ.
                                                                                                                                                                                                                                                                                                                                                            Hedges S.B., Poling L.L.;
"A molecular phylogeny of reptiles.";
Science 283:998-1001(1999).
                                                                                                                                                                                                                                                                                                                                                                                        SEQUENCE FROM N.A.
MEDLINE=99141276; PubMed=9974396;
                                                                                                                                                                                                                                                                                                                                                                                                                                    Pelusios subniger.
Eukaryota; Metazoa; Chordata;
Testudines; Pleurodira; Pelomo
                                                                                                                                                                                     PROSITE; PS00164; ENOLASE; 1. Glycolysis; Lyase; Magnesium.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   SEQUENCE
                                                                                                                                                                                                                                 Pfam; PF00113; enolase; 1.
                                                                                                                                                                                                                                          HSSP; P56252; 1PDZ.
InterPro; IPR000941; Enolase.
                                                                                                                                                                                                                                                                                                                               1
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                                                                                                                                                                                                                                                                                                                                                                                                                          NCBI_TaxID=88690;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         NCBI_TaxID=10090;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Mammalia;
                                                                                                                                                                              NON_TER
                                                                                                                                                          ACT_SITE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      303
                                        365
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         1 LAACTCL
                                                            μ.
                                                                                                                                                                                                                                                                                                                              COFACTOR: MAGNESIUM IS REQUIRED FOR CATALYSIS
                                                                                                                                                                                                                                                                                                                                                    CATALYTIC ACTIVITY: 2-PHOSPHO-D-GLYCERATE = PHOSPHOENOLPYRUVATE +
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                                                             LVVGLCT 7
                                        LVVGLCT 371
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                                                                                 Similarity 7; Conser
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                                                                                                                                     334
373
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322
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  PRELIMINARY;
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                                                                                                                                     AA;
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322
334
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                                                                                           Score 7; I
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Pred. No.
                                                                                                                                 BY SIMILARITY.
MAGNESIUM (BY SIMILARITY).
, 399B5C8BB467BD04 CRC64;
                                                                                                                                                                                                                                                                                                                                                                                                                                               Craniata;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Sciurognathi; Muridae; Murinae;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  PRT;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   2DBD375CE1C26A43 CRC64;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         DB 11;
). 7.5;
                                                                                                                                                                                                                                                                                    (BY SIMILARITY)
                                                                                            DB 13;
                                                                                                                                                                                                                                                                                                                                                                                                                                      Pelusios
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                                                                                                     Length 373;
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Best Local
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NON_TER
ACT_SITE
METAL
SEQUENCE
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01-NOV-1999 (TremBLrel. 12, Last sequence update)
01-JUN-2001 (TremBLrel. 17, Last annotation update)
eNOLASE (EC 4.2.1.11) (2-PHOSPHOGLYCERATE DEHYDRATASE) (2-PHOSPHO-D-
                                                                                                                                                                                              Q9W6D1; PRELIMINARY; PRT; 373 AA.
Q9W6D1; O1-NOV-1999 (TrEMBLrel. 12, Created)
O1-NOV-1999 (TrEMBLrel. 12, Last sequence update)
O1-JUN-2001 (TrEMBLrel. 17, Last annotation update)
ENOLASE (EC 4.2.1.11) (2-PHOSPHOGLYCERATE DEHYDRATASE)
GLYCERATE HYDRO-LYASE) (FRAGMENT).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  "A molecular phylogeny of reptiles.";
Science 283:998-1001(1999).
-!- CATALYTIC ACTIVITY: 2-PHOSPHO-D-G
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        GLYCERATE HYDRO-LYASE) (FRAGMENT).
Trachemys scripta (Red eared slider turtle) (Pseudemys scripta).
Eukaryota; Metazoa; (Dordata; Craniata; Vertebrata; Euteleostomi;
Testudines; Cryptodira; Testudinoidea; Emydidae; Trachemys.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         -!- PATHWAY: GLYCOLYSIS.
-!- SUBUNIT: HOMODIMER (BY SIMILARITY).
-!- SUBCELLULAR LOCATION: CYTOPLASMIC (!
-!- SIMILARITY: TO THE ENOLASE FAMILY.
EMBL; AF115858; AAD20345.1; -
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          PRINTS;
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Pfam; PF00113; enolase; 1.
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                                     Hedges S.B., Poling L.L.;
"A molecular phylogeny of reptiles.";
Science 283:998-1001(1999).
-i- CATALYTIC ACTIVITY: 2-PHOSPHO-D-G
                                                                                                                                                                    Eumeces inexpectatus (southeastern five-lined skink).
Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; E
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Glycolysis; Lyase; Magnesium.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ProDom; PD000902; PROSITE; PS00164;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        -!- COFACTOR: MAGNESIUM IS REQUIRED FOR CATALYSIS AND FOR
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        MEDLINE=99141276; PubMed=9974396;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   SEQUENCE FROM N.A.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            NCBI_TaxID=34903
                                                                                         SEQUENCE FROM N.A.
MEDLINE-99141276; PubMed-9974396;
                                                                                                                                NCBI_TaxID=38930;
                                                                                                                                               Scincidae; Eumeces.
                                                                                                                                                          Lepidosauria; Squamata;
                                                                                                                                                                                                                                                                                                                                              365 LVVGLCT
                                                                                                                                                                                                                                                                                                                                                                       1 LVVGLCT
H(2)O.
COFACTOR:
THE DIMER
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322
334
373
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 MAGNESIUM IS RE (BY SIMILARITY)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                    AA;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Enolase; 1.
ENOLASE; 1.
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322
334
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                                                                                                                                                         rdata; Craniata; Vertebrata; Euteleostom Scleroglossa; Scincomorpha; Scincoidea;
                                     2-PHOSPHO-D-GLYCERATE = PHOSPHOENOLPYRUVATE +
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     2-PHOSPHO-D-GLYCERATE =
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             REQUIRED
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0; Mismatches
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MAGNESIUM (BY SIMILARITY).
, 055BBFAF4D64BF99 CRC64;
               FOR CATALYSIS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               373
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                AND
                                                                                                                                                                                                                                                                                                                                                                                                    Indels
                                                                                                                                                                          Euteleostomi;
                                                                                                                                                                                                               (2-PHOSPHO-D-
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Matches 7
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Best Local
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        01-NOV-1999 (TrEMBLrel. 12, 01-NOV-1999 (TrEMBLrel. 12, 01-JUN-2001 (TrEMBLrel. 17,
                                                                          Q9W6C9;
                                                                                              Q9W6C9
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"A molecular phylogeny of reptiles.";
Science 283:998-1001(1999).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       SEQUENCE FROM N.A. MEDLINE=99141276; PubMed=9974396;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Sphenodon punctatus (Hatteria) (Tuatara).
Eukaryota; Metazoa; Chordata; Craniata; V
                                                                                                                                                                                                                                                                                                                                                                                             SEQUENCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Lepidosauria; Rhynchocephalia; Sphenodontidae; Sphenodon NCBI_TaxID=8508;
                                                                                                                                                                                                                                                                                                                                                                                                                                                    ProDom; PD000902; Enolase; 1.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                              PRINTS; PR00148; ENOLASE.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   InterPro; IPR000941; Enolase
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InterPro; IPR000941; Enolase.
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-!- SUBUNIT: HOMODIMER (BY SIMILARITY).
-!- SUBCELLULAR LOCATION: CYTOPLASMIC (BY SIMILARITY).
-!- SIMILARITY: TO THE ENOLASE FAMILY.
                                                                                                                                                                                                     365
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373 AA;
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                                                                                              PRELIMINARY;
                                                                                                                                                                                                                                                                                      Conservative
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Pred. No.
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MAGNESIUM (BY SIMILARITY).
5D46A0D51F63982A CRC64;
                                                                                              PRT;
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5. 7.8;
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          update)
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Best Local :
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Q9NG67;
Q9NG67;
01-OCT-2000 (TrEMBLrel. 15, Created)
01-OCT-2000 (TrEMBLrel. 15, Last sequence update)
01-OCT-2000 (TrEMBLrel. 17, Last annotation update)
01-JUN-2001 (TrEMBLrel. 17, Last annotation update)
ENOLASE (EC 4.2.1.11) (2-PHOSPHOGLYCERATE DEHYDRATASE) (2-PHOSPHO-D-GLYCERATE HYDRO-LYASE) (FRAGMENT).
TOMOCERUS Sp. 'Tom',
Eukaryota: Metazoa; Arthropoda; Tracheata; Hexapoda; Collembola; Arthropleona; Entomobryoidea; Tomoceridae; Tomocerus.
      -!- PATHWAY: GLYCOLYSIS.
-!- SUBUNIT: HOMODIMER (BY SIMILARITY).
-!- SUBCELLULAR LOCATION: CYTOPLASMIC (
-!- SIMILARITY: TO THE ENGLASE FAMILY.
EMBL; AF258670, AAF72641.1; -.
                                                                                         -
                                                                                                                                "Enolase as a phylogenetic marker.";
Submitted (APR-2000) to the EMBL/Ger
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                NON_TER
ACT_SITE
METAL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      PRINTS; PRO0148; ENOLASE.
ProDom; PD000902; EnoLase; 1.
PROSITE; PS00164; ENOLASE; 1.
Glycolysis; Lyase; Magnesium.
NON_TER
                                                                                                                                                         STRAIN=TOM23_406;
Regier J.C., Shultz J.W.;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Hedges S.B., Poling L.L.;
"A molecular phylogeny of reptiles.";
Science 283:998-1001(1999).
                                                                                                                    -!- CATALYTIC ACTIVITY:
                                                                                                                                                                                                                                                                                                                                                Q9NG67
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  EMBL; AF115855; AAI
HSSP; P56252; 1PDZ.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     -!- CÓFÁCTOR: MAGNESIUM IS REQUIRED FOR CATALYSIS AND FOR STABILIZING
THE DIMER (BY SIMILARITY).
-!- PATHWAY: GLYCOLYSIS.
-!- SUBUNIT: HOMODIMER (BY SIMILARITY).
-!- SUBCELLULAR LOCATION: CYTOPLASMIC (BY SIMILARITY).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        SEQUENCE FROM N.A.
MEDLINE=99141276; PubMed=9974396;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ENOLASE (EC 4.2.1.11) (2-PHOSPHOGLYCERATE DEHYDRATASE) (2-PHOSPHO-D-GLYCERATE HYDRO-LYASE) (FRAGMENT).

Caiman crocodilus (Spectacled caiman) (Caiman sclerops).

Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
                                                                                                                                                                                    SEQUENCE FROM N.A.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      SEQUENCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Pfam; PF00113; enolase;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             -!- SIMILARITY:
                                                                                                                                                                                                                                                                                                                                                                                                               365 LVVGLCT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    InterPro; IPR000941; Enolase.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      -! - CATALYTIC ACTIVITY:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Local Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                           1 LVVGLCT 7
                                                                                        COFACTOR: MAGNESIUM IS REQUIRED
                                                                           THE DIMER (BY SIMILARITY).
                                                                                                        H(2)0.
IPR000941;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   373
322
334
373 AA;
                                                                                                                                                                                                                                                                                                                                                PRELIMINARY;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                  371
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Crocodyl'idae; Alligatorinae;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               AAD20342.1; -.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             TO THE ENOLASE FAMILY
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                322
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            373
                                                                                                                  to the EMBL/GenBank/DDBJTY: 2-PHOSPHO-D-GLYCERATE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     40396
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 100.0%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              43.8%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     2-PHOSPHO-D-GLYCERATE = PHOSPHOENOLPYRUVATE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   , WM
                                                                                                                                                                                                                                                                                                                                                                                                                                                                   0;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Score 7;
Pred. No.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               BY SIMILARITY.
MAGNESIUM (BY SIMILARITY).
, 9F9020B86F66657A CRC64;
                                                                                                                                                                                                                                                                                                                                               PRT;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Mismatches
                                                                                        FOR
                                                                                                                                                                                                                                                                                                                                               383
                                    (BY
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 . DB
                                                                                         CATALYSIS
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/.8;
                                    SIMILARITY)
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                                                                                                                  = PHOSPHOENOLPYRUVATE +
                                                                                                                                databases
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Length 373;
                                                                                        AND FOR STABILIZING
                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Indels
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RESULT

109 PT X6

AC Q9P TX6

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Q9PTX5
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Best Local S
Matches 7
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Best Local
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Q9PTX5;
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01-MAY-2000 (TrEMBLrel. 13, Last sequence update)
01-JUN-2001 (TrEMBLrel. 17, Last annotation update)
ENOLASE (EC 4.2.1.11) (2-PHOSPHOGLYCERATE DEHYDRATASE) (2-PHOSPHO-D-GLYCERATE HYDRO-LYASE) (FRAGMENT).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Q9PTX6;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            -!- PATHWAY: GLYCOLYSIS.
-!- SUBUNIT: HOMODIMER (BY SIMILARITY)
-!- SUBCELLULAR LOCATION: CYTOPLASMIC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          genes.";
J. Mol. Evol.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  MEDLINE=20063780; PubMed=10594174; Kuraku S., Hoshiyama D., Katoh K., Su
Monophyly of lampreys and hagfishes
                                                                                                                                                                                                                                                                                                                                     SEQUENCE
                                                                                                                                                                                                                                                                                                                                                                        Glycolysis; Lyase; Magnesium.
                                                                                                                                                                                                                                                                                                                                                                                                  PRINTS; PRO0148; ENOLASE.
PRODOM; PD000902; Enolase; 1.
PROSITE; PS00164; ENOLASE; 1.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                   InterPro; IPR000941; Enolase. Pfam; PF00113; enolase; 1.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               -I- SIMILARITY: TO THE ENOLASE FAMILY EMBL; AB025329; BAA88482.1; -. HSSP; P56252; 1PDZ.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             -1- COFACTOR: MAGNESIUM IS REQUIRED FOR CATALYSIS AND THE DIMER (BY SIMILARITY).
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     SEQUENCE FROM N.A.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    NCBI_TaxID=7753;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Eukaryota; Metazoa;
Petromyzontiformes;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Lampetra reissneri.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ENOLASE-1.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     SEQUENCE
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PRODOM; PD000902; Enolase; 1.
PROSITE; PS00164; ENOLASE; 1.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 363
                                                                                                                                    345 LVVGLCT 351
                                                                 13
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                                                                                                                                                                            1 LVVGLCT
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            LVVGLCT 369
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s; PR00148; ENOLASE.
                                                                                                                                                                                                                      Similarity 7; Conserv
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  383
383 AA;
                                                                                                                                                                                                                                                                                                                                   394 AA;
                                                                                                                                                                                                                          Conservative
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                       PRELIMINARY;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          49:729-735(1999).
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                                                                                                                                                                                                                                                                                                                                   42583 MW;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     41326 MW;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          43.8%;
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                                                                                                                                                                                                                                                                  13.8%;
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                                                                                                                                                                                                                                             Score 7;
Pred. No.
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Pred. No.
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                                                                                                                                                                                                                                                                                                                                   BC585FE6C712A3D2 CRC64;
                                                                                                                                                                                                                        Mismatches
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Suga H., Miyata T.;
es supported by nuclear
                    395
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 (BY
                                                                                                                                                                                                                                             DB 13;
0. 8.1;
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BB
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                    AA
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                                                                                                                                                                                                                                                                  Length 394;
                                                                                                                                                                                                                        Indels
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         FOR STABILIZING
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RESULT
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Best Local
                                                                                                                                                                                                                               Q9U5F7 PRELIMINARY; PRT; 395 AA.
Q9U5F7;
Q1-MAY-2000 (TrEMBLrel. 13, Created)
Q1-MAY-2000 (TrEMBLrel. 13, Last sequence update)
Q1-JUN-2001 (TrEMBLrel. 17, Last annotation update)
ENOLASE (EC 4.2.1.11) (2-PHOSPHOGLYCERATE DEHYDRATASE)
GLYCERATE HYDRO-LYASE) (FRAGMENY).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 genes.";
J. Mol. Evol. '
-!- CATALYTIC !
                                                                          genes.";
J. Mol.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    01-MAY-2000 (TrEMBLrel. 13, Created)
01-MAY-2000 (TrEMBLrel. 13, Last sequence update)
01-JUN-2001 (TrEMBLrel. 17, Last annotation update)
ENOLASE (EC 4.2.1.11) (2-PHOSPHOGLYCERATE DEHYDRATASE) (2-PHOSPHO-D-GLYCERATE HYDRO-LYASE) (FRAGMENT).
    H(2)O.
-!- COFACTOR: MAGNESIUM IS REQUIRED THE DIMER (BY SIMILARITY).
-!- PATHWAY: GLYCOLYSIS.
                                                                                                    MEDLINE=20063780; PubMed=10594174;
Kuraku S., Hoshiyama D., Katoh K., Su
Monophyly of lampreys and hagfishes
                                                                                                                                                                                  Myxinidae; Eptatretinae; Eptatretus.
                                                                                                                                                                                                          Eptatretus burgeri (Inshore hagfish).
Eukaryota; Metazoa; Chordata; Craniata;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Glycolysis; Lyase; Magnesium.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             EMBL; AB025330; BAA88483.1; HSSP; P56252; 1PDZ.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      H(2)O.

H(2)O.

ICAGCTOR: MAGNESIUM IS REQUIRED FOR CATALYSIS AND FOR STABILIZING THE DIMER (BY SIMILARITY).

PATHWAY: GLYCOLYSIS.

I PATHWAY: HOMODIMER (BY SIMILARITY).

SUBCULULAR LOCATION: CYTOPLASMIC (BY SIMILARITY).

SIMILARITY: TO THE ENOLASE FAMILY.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      SEQUENCE FROM N.A.
MEDLINE=20063780; PubMed=10594174;
Kuraku S., Hoshlyama D., Katoh K., Su
"Monophyly of lampreys and hagfishes
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Hyperoartia;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ENOLASE-2
                                                                                                                                               TISSUE=LIVER;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        SEQUENCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             ProDom; PD000902; Enolase; 1. PROSITE; PS00164; ENOLASE; 1.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      PRINTS; PR00148; ENOLASE.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    InterPro; IPR000941; Enolase.
Pfam; PF00113; enolase; 1.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          NCBI_TaxID=7753;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Petromyzontiformes; Petromyzontidae; Lampetra
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Lampetra reissneri.
                                                                                                                                                          SEQUENCE FROM N.A.
                                                                                                                                                                                                                                                                                                                                                                                    345 LVVGLCT
                                                                                                                                                                                                                                                                                                                                              14
                                                                                                                                                                                                                                                                                                                                                                                                          1 LVVGLCT
                                                               Mol. Evol. CATALYTIC
                                                                                                                                                                                                                                                                                                                                                                                                                                      Similarity 7; Conserv
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        395 AA;
                                                                                                                                                                                                                                                                                                                                                                                                                                       Conservative
                                                                                                                                                                                                                                                                                                                                                                                      351
                                                                                                                                                                                                                                                                                                                                                                                                             7
                                                              49:729-735(1999).
ACTIVITY: 2-PHOSPHO-D-GLYCERATE - PHOSPHOENOLPYRUVATE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             49:729-735(1999)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ACTIVITY:
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                                                                                                                                                                                                                                                                                                                                                                                                                                                    43.8%;
100.0%;
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                                                                                                                  Suga H.,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Suga H.,
                                      FOR
                                                                                                   uga H., Miyata T.;
supported by nuclear DNA-coded
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supported by n
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D. 8.1;
                                      CATALYSIS
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        CRC64;
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                                                                                                                                                                                                            Myxiniformes;
                                      FOR STABILIZING
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Best Local Similarity lou.
Thes 7; Conservative
                                                        Matches
                                                                        Query Match
Best Local :
                                                                                                                                                                                                                                                                                                                                                                                                 SEQUENCE FROM N.A.

TISSUB-ABDOMINAL MUSCLES;
BOONCHOUY C., BOONYAWAN B., Panyim S., Sonthayanon B.;
BOONCHOUY C., BOONYAWAN B., Panyim S., Sonthayanon B.;
"Complete cDNA sequence of phosphopyruvate hydratase (enolase) from marine shrimp, Penaeus monodon.";
Submitted (OCT-1998) to the EMBL/GenBank/DDBJ databases.

-!- CATALYTIC ACTIVITY: 2-PHOSPHO-D-GLYCERATE = PHOSPHOENOLPYRUVATE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     O96656 PRELIMINARY; PRT; 434 AA.
O96656;
O1-MAY-1999 (TrEMBLrel. 10, Created)
O1-MAY-1999 (TrEMBLrel. 10, Last sequence update)
O1-JUN-2001 (TrEMBLrel. 17, Last annotation update)
ENOLASE (EC 4.2.1.11) (2-PHOSPHOGLYCERATE DEHYDRATASE) (2-PHOSPHO-D-GLYCERATE HYDRO-LYASE).
                                                                                                                            Glycolysis; Lyase; Magnesium; Pyruvate.
ACT_SITE 343 343 BY SIMILARITY.
METAL 355 355 MAGNESIUM (BY SIMILARITY).
SEQUENCE 434 AA; 47265 MW; EB575C6FB541ABD3 CRC64;
                                                                                                                                                                                         PRINTS; PR00148; ENOLASE.
PRODOM; PD000902; Enolase; 1.
PROSITE; PS00164; ENOLASE; 1.
                                                                                                                                                                                                                                      EMBL; AF100985; AAC78141.1; - HSSP; P56252; IPDZ. InterPro; IPR000941; Enclase. Pfam; PF00113; enclase; 1.
                                                                                                                                                                                                                                                                                             H(2)0.

-I- COPACTOR: MAGNESIUM IS REQUIRED FOR THE DIMER (BY SIMILARITY).

-I- PATHMAY: GLYCOLYSIS.

-I- SUBUNIT: HOMODIMER (BY SIMILARITY).

-I- SUBCELLULAR LOCATION: CYTOPLASMIC (

-I- SIMILARITY: TO THE ENOLASE FAMILY.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Penaeus monodon (Penoeid shrimp).
Eukaryota; Metazoa; Arthropoda; Crustacea; Malacostraca;
Eumalacostraca; Eucarida; Decapoda; Dendrobranchiata; Penaeoidea;
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345 LVVGLCT 351
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-!- SIMILARITY: TO THE ENCLASE FAMILY.
EMBL; AB025326; BAA88479.1; -.
HSSP; P56252; 1PDZ.
InterPro; IPR000941; Enclase.
Pfam; PF00113; enclase; 1.
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PRODOM; PD000902; Enolase; 1.
PROSITE; PS00164; ENOLASE; 1.
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386 LVVGLCT 392
                                                        Local Similarity
nes 7; Conserv
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                             1 LVVGLCT 7
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100.0%;
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                                                                        Score 7; ; Pred. No.
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                                                          Mismatches
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Search completed: May 8, 2002, 11:48:28 Job time: 113 sec

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Maximum Match 100%
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Maximum DB seq length: 2000000000
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Perfect score:
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Copyright (c) 1993 - 2000 Compugen Ltd.
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sp_mammal:*
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044100

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3 Q9PTX6
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   Q9VQ38
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O9np14 homo sapien
Q9ng70 peripatus s
Q9bt62 homo sapien
Q99kt7 mus musculu
Q9ng67 tomocerus s
Q9ptx6 lampetra re
Q9ptx5 lampetra re
Q9ptx5 lampetra re
Q9u5f7 eptatretus
O96656 penaeus mon
Q9w712 sceloporus
Q9w712 trachemys s
Q9w710 python regi
Q9w710 limulus pol
Q9ng71 limulus pol
Q9ng71 limulus pol
Q9ng73 eumesocampa
Q9ng78 scolopendra
Q4100 dorosophila
Q44101 dorosophila
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Q9uae6 toxoplasma	Q9ndh8 trypanosoma	mycol	Q9y6p2 homo sapien	homo	Q99225 homo sapien	9	Q9atj6 arabidopsis	Q9s6y2 triticum ae		Q9w6b0 brachydanio	Q9c9c4 arabidopsis	Q9s9d7 hordeum vul	$\mathbf{\dot{-}}$	Q9ual5 plasmodium	Q9u615 mastigamoeb	Q9n997 leishmania	Q18857 caenorhabdi			to	Q91eeO spinacia ol		Q42887 lycopersico	Q9bpl7 toxoplasma	093873 pneumocysti

ALIGNMENTS

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Pfam; PF00113; enolase; 1. PRINTS; PR00148; ENOLASE; 1. ProDom; PD000902; Enolase; 1. PROSITE; PS00164; ENOLASE; 1. Glycolysis; Lyase; Magnesium. NON_TER 1 1 1. SEQUENCE 154 AA; 16937 MW; 347B95809B1C864D CRC64;	-I- COFACTOR: MAGNESIUM IS REQUIRED FOR CATALYSIS AND FOR STABILIZING THE DIMER (BY SIMILARITY)I- PATHWAY: GLYCOLYSISI- SUBUNIT: HOMODIMER (BY SIMILARITY)I- SUBCELLULAR LOCATION: CYTOPLASMIC (BY SIMILARITY)I- SUBCELLULAR LOCATION: CYTOPLASMIC (BY SIMILARITY)I- SIMILARITY: TO THE ENOLASE FAMILYI- SIMILARITY: TO THE ENOLASE FAMILY. InterPro; IPR000941; Enolase.	SEQUENCE FROM N.A. SEQUENCE FROM N.A. Auffray C., Ansorge W., Ballabio A., Estivill X., Gibson K., Lehrach H., Poustka A., Lundeberg J.; "The European IMAGE consortium for integrated Molecular analysis of human gene transcripts"; Submitted (JUN-2000) to the EMBL/GenBank/DDBJ databases. -!- CATALYTIC ACTIVITY: 2-PHOSPHO-D-GLYCERATE = PHOSPHOENOLPYRUVATE +	HOMO Saplens (Human). Eukaryota; Metacoa; Chordata; Craniata; Vertebrata; Euteleostomi; Mammalia; Eutheria; Primates; Catarrhini; Hominidae; Homo. NCBI_TaxID=9606; [1] SEQUENCE FROM N.A. Andreu N., Estivill X., Escarceller M., Sumoy L.; Submitted (JUN-2000) to the EMBL/GenBank/DDBJ databases.	LT 1 L4 C9NDL4 PRELIMINARY; PRT; 154 AA. C9NPL4; C9NPL4; C1-CCT-2000 (TrEMBLrel. 15, Created) C1-CCT-2000 (TrEMBLrel. 15, Last sequence update) C1-JUN-2001 (TrEMBLrel. 17, Last annotation update) ENOLASE (EC 4.2. 1.11) (2-PHOSPHOGLYCERATE DEHYDRATASE) (2-PHOSPHO-D-GLYCERATE HYDRO-LYASE) (FRAGMENT).

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Best Local
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Q9BT62;
Q1-JUN-2001 (TrEMBLrel. 17, Created)
Q1-JUN-2001 (TrEMBLrel. 17, Last sequence update)
Q1-JUN-2001 (TrEMBLrel. 17, Last annotation update)
UNKNOWN (PROTEIN FOR IMAGE:3629132) (FRAGMENT).
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SEQUENCE
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"-!- COFACTOR: MAGNESIUM IS REQUIRED
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                                                                                         Eukaryota; Metazoa;
Mammalia; Eutheria;
NCBI_TaxID=9606;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Regier J.C., Shultz J.W.;
"Enolase as a phylogenetic marker.";
Submitted (APR-2000) to the EMBL/GenBank/DDBJ
-!- CATALYTIC ACTIVITY: 2-PHOSPHO-D-GLYCERATE
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PRODOM; PD000902; Enolase; 1.
PROSITE; PS00164; ENOLASE; 1.
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Peripatus sp. 'Per3'.
Eukaryota; Metazoa; Onychophora; Peripatidae; Peripatus
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01-OCT-2000 (TremBirel, 15, Last sequence update)
01-JUN-2001 (TremBirel, 17, Last annotation update)
ENOLASE (EC 4.2.1.11) (2-PHOSPHOGIYCERATE DEHYDRATASE) (2-PHOSPHO-D-
Strausberg
                                               SEQUENCE FROM N.A.
                                                                                                                                                            Homo sapiens (Human)
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Pfam; PF00113; enolase; 1.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               -!- PATHWAY: GLYCOLYSIS.
-!- SUBUNIT: HOMODIMER (BY SIMILARITY)
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                          SSUE=CHORIOCARCINOMA;
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nes 13; Conserv
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159 AA;
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17582 MW;
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81.2%;
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Pred. No.
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                                                                                                               Craniata; Vertebrata; Catarrhini; Hominidae;
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                                                                                                               Hominidae;
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Best Local S
Matches 13
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Best Local Similarity
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                                                                                                                                                                                                                                                                                                                                                                                                                                           Q9NG67 PRELIMINARY; PRT; 383 AA.
Q9NG67;
01-OCT-2000 (TrEMBLrel. 15, Created)
01-OCT-2000 (TrEMBLrel. 15, Last sequence update)
01-JUN-2001 (TrEMBLrel. 17, Last annotation update)
ENOLASE (EC 4.2.1.11) (2-PHOSPHOGLYCERATE DEHYDRATASE)
                                                                                                                                                                          STRAIN-TOM23_406;
Regier J.C., Shultz J.W.;
"Enclase as a phylogenetic marker.";
Submitted (APR-2000) to the EMBL/GenBank/DDBJ
-!- CATALYTIC ACTIVITY: 2-PHOSPHO-D-GLYCERATE
                                                                                                                                                                                                                                                                                                                                    GLYCERATE HYDRO-LYASE) (FRAGMENT).

Tomocerus sp. 'Tom'.

Eukaryota; Metazoa; Arthropoda; Tracheata;

Arthropleona; Entomobryoidea; Tomoceridae;

NCBI_TaxID=111305;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Strausberg R.;
Straus
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01-JUN-2001 (TrEMBLrel. 17,
01-JUN-2001 (TrEMBLrel. 17,
01-JUN-2001 (TrEMBLrel. 17,
SIMILAR TO ENCLASE 1, ALPHA
                                                                                                                                  +
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EMBL; BC004325; AAH04325.1; -.
NON_TER 1 1 1
SEQUENCE 272 AA; 29883 MW; 08F1755ADEA88DOC CRC64;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Eukaryota; Metazoa;
Mammalia; Eutheria;
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                                                                                                                                                                                                                                                                                             SEQUENCE FROM N.A.
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                  PATHWAY: GLYCOLYSIS.
SUBUNIT: HOMODIMER (BY SIMILARITY).
SUBCELLULAR LOCATION: CYTOPLASMIC (
SIMILARITY: TO THE ENOLASE FAMILY.
                                                                                                                                COFACTOR: MAGNESIUM IS REQUIRED
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                                                                                                           THE DIMER (BY SIMILARITY).
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AF258670; AAF72641.1;
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13; Conservative
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81.2%;
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Last annotation updat
NON-NEURON (FRAGMENT)
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Pred. No.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Score
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Sciurognathi;
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0.0012;
                                            (BY SIMILARITY)
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                                                                                                                                CATALYSIS
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; Murinae; Mus
                                                                                                                                                                                                                                                                                                                                                                                 Collembola;
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                                                                                                                                  STABILIZING
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RESULT
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Best Local :
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MEDLINE=20063780; PubMed=10594174;

KUTAKU S., Hoshiyama D., Katoh K., Suga H., Miyata T.;

"Monophyly of lampreys and hagfishes supported by nuclear DNA-coded genes.";

J. Mol. Evol. 49:729-735(1999).

I. CATALYTIC ACTIVITY: 2-PHOSPHO-D-GLYCERATE = PHOSPHOENOLPYRUVATE
                                                                                                                                                                                                                                                                                                                                                Glycolysis; Lyase; Magnesium.
NON_TER 1 1 1
SEQUENCE 394 AA; 42583 MW:
                                                                                                                                                                                                                                                                                                                                                                                                                               InterPro: IPR000941; Enclase.
Pfam; PF00113; enclase; 1.
PRINTS; PR00148; ENCLASE.
ProDom; PD000902; Enclase; 1.
PROSITE; PS00164; ENCLASE; 1.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     -I- CÓFÁCTOR: MAGNESIUM IS REQUIRED FOR CATALYSIS AND FOR STABILIZING
THE DIMER (BY SIMILARITY).
-I- PATHMAY: GLYCOLYSIS.
-I- SUBUNIT: HOMODIMER (BY SIMILARITY).
-I- SUBCELLULAR LOCATION: CYTOPLASMIC (BY SIMILARITY).
-I- SIMILARITY: TO THE ENOLASE FAMILY.
EMBL; AB025329; BAA88482.1; -.
HSSP; P56252; 1PDZ.
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01-MAY-2000 (TrEMBLrel. 13, Last sequence update)
01-JUN-2001 (TrEMBLrel. 17, Last annotation update)
ENOLASE (EC 4.2.1.11) (2-PHOSPHOGLYCERATE DEHYDRATASE) (2-PHOSPHO-D-GLYCERATE HYDRO-LYASE) (FRAGMENT).
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01-MAY-2000
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Q9PTX5
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Eukaryota; Metazoa; Chordata; Craniata; Vertebrata;
Petromyzontiformes; Petromyzontidae; Lampetra.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  PRINTS; PR00148; ENOLASE. ProDom; PD000902; Enolase; PROSITE; PS00164; ENOLASE;
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Pfam; PF00113; enolase; 1.
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                                                                                                                           LVVGLCTGQIKTGAPC 360
                                                                                                                                                                                                                          l Similarity 81.:
13; Conservative
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13; Conserv
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PRELIMINARY;
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                                                                                                                                                                                                                          Score 65; DB Pred. No. 0.00 0; Mismatches
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PRT;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    4523F005F6A5E579 CRC64;
                                                                                                                                                                                                                                                                                                                                                     BC585FE6C712A3D2 CRC64;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           394
395
                                                                                                                                                                                                                                                 DB 13;
0.0013;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             DB 5;
0.0013;
A
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                                                                                                                                                                                                                                                                      Length 394;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Indels
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RESULT
Q9U5F7
Вb
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Best Local Similarity 81.2
Matches 13; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   OSPTX5;
O1-MAY-2000 (TrEMBLrel. 13, Created)
O1-MAY-2000 (TrEMBLrel. 13, Last sequence update)
O1-JUN-2001 (TrEMBLrel. 17, Last annotation update)
ENOLASE (EC. 4.2.1.11) (2-PHOSPHOGLYCERATE DEHYDRATASE)
                                                                                                                                                                                                                             Q9U5F7 PRELIMINARY; PRT; 395 AA.
Q9U5F7;
Q1-MAY-2000 (TrEMBLrel. 13, Created)
Q1-MAY-2000 (TrEMBLrel. 13, Last sequence update)
Q1-JUN-2001 (TrEMBLrel. 17, Last annotation update)
ENOLASE (EC 4.2.1.11) (2-PHOSPHOGLYCERATE DEHYDRATASE)
ELYCERATE HYDRO-LYASE) (FRAGMENT).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    -!- PATHWAY: GLYCOLYSIS.
-!- SUBUNIT: HOMODIMER (BY SIMILARITY).
-!- SUBCELLULAR LOCATION: CYTOPLASMIC (
-!- SIMILARITY: TO THE ENOLASE FAMILY.
EMBL; AB025330; BAA88483.1; -.
HSSP; P56252; 1PDZ.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     SEQUENCE FROM N.A.

MEDLINE-20063780; PubMed=10594174;

MEDLINE-20063780; PubMed=10594174;

Kuraku S., Hoshiyama D., Katoh K., Suga H., Miyata T.;

"Monophyly of lampreys and hagfishes supported by nucl
genes.";
        H(2)0.
-!- COFACTOR: MAGNESIUM IS REQUIRED FOR CATALYSIS THE DIMER (BY SIMILARITY).
                                                genes.";
J. Mol. Evol. 49:729-735
-i- CATALYTIC ACTIVITY:
                                                                                                                TISSUE=LIVER;
MEDLINE=20063780; PubMed=10594174;
                                                                                                                                                                        Eptatretus burgeri (Inshore hagfish).
Eukaryota; Metazoa; Chordata; Craniata;
Myxinidae; Eptatretinae; Eptatretus.
NCBI_TaxID-7764;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Glycolysis; Lyase; Magnesium.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          J. Mol. Evol. 49:729-73:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Lampetra reissneri.
Eukaryota; Metazoa;
Petromyzontiformes;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          GLYCERATE HYDRO-LYASE)
                                                                                                                                              SEQUENCE FROM N.A.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           SEQUENCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                PROSITE; PS00164; ENOLASE; 1.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             PRINTS; PR00148; ENOLASE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Pfam; PF00113; enolase;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    -!- COFACTOR: MAGNESIUM IS REQUIRED THE DIMER (BY SIMILARITY).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        NCBI_TaxID=7753;
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                                                                                        Kuraku S., Hoshiyama D., Katoh K., Su
Monophyly of lampreys and hagfishes
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       InterPro; IPR000941; Enolase.
                                                                                                                                                                                                                                                                                                                                                                                   345
                                                                                                                                                                                                                                                                                                                                                                                                 1 LVVGLCTCQIKTGPAC 16
                                                                                                                                                                                                                                                                                                                                           8
                                                                                                                                                                                                                                                                                                                                                                                   LVVGLCTGQIKTGAPC 360
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             395
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      49:729-735(1999).
ACTIVITY: 2-PHOSPHO-D-GLYCERATE = PHOSPHOENOLPYRUVATE
                                                                49:729-735(1999)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          AA; 43266 MW;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Petromyzontidae;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Chordata; Craniata; Vertebrata;
                                                                                                                                                                                                                                                                                                                                                                                                                                                     72.2%;
81.2%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         (FRAGMENT).
                                             2-PHOSPHO-D-GLYCERATE = PHOSPHOENOLPYRUVATE
                                                                                                                                                                                                                                                                                                                                                                                                                                       0
                                                                                                                                                                                                                                                                                                                                                                                                                                                    Score 65; DB 13; Pred. No. 0.0013;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          8591D68662DA8544 CRC64;
                                                                                                                                                                                                                                                                                                                                                                                                                                       Mismatches
                                                                                          Suga H., Miyata T.; es supported by nucl
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   FOR
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                                                                                                                                                                                                      Hyperotreti;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   CATALYSIS
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•••
                                                                                                                                                                                                                                                                                                                                                                                                                                                                Length 395;
                         AND FOR STABILIZING
                                                                                           nuclear
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                                                                                                                                                                                                      Myxiniformes;
                                                                                                                                                                                                                                             (2-PHOSPHO-D-
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        (2-PHOSPHO-D-
                                                                                           DNA-coded
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     DNA-coded
                                                                                                                                                                                                                                                                                                                                                                                                                                       0,
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-! - PATHWAY:

GLYCOLYSIS

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096656
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Best Local S
Matches 13
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Best Local Similarity
                                                                                                                            METAL
SEQUENCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    01-MAY-1999 (TIEMBLIE1 10, Created)
01-MAY-1999 (TIEMBLIE1 10, Last sequence update)
•01-JUN-2001 (TIEMBLIE1 17, Last annotation update)
ENOLASE (EC 4.2.1.11) (2-PHOSPHOGLYCERATE DEHYDRATASE) (2-PHOSPHO-D-GLYCERATE HYDRO-LYASE)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              096656;
                                                                                                                                                                                                                                               THE DIMER (BY SIMILARITY).

-!- PATHWAY: GLYCOLYSIS.

-!- SUBULT: HONDIMER (BY SIMILARITY).

-!- SUBCELLULAR LOCATION: CYTOPLASMIC (
-!- SIMILARITY: TO THE ENOLASE FAMILY.

EMBL; AF100985; AAC78141.1; -.

HSSP; P56252; 1PDZ.

HSSP; P56252; 1PDZ.
                                                                                                                                                                                                                                                                                                                                                                   Boonchouy C., Boonyawan B., Panyim S., Sonthayanon B.;
"Complete CDNA sequence of phosphopyruvate hydratase (enolase) from
marine shrimp, Penaeus monodon.";
Submitted (CCT-1998) to the EMBL/GenBank/DDBJ databases.
-i- CATALYTIC ACTIVITY: 2-PHOSPHO-D-GLYCERATE = PHOSPHOENOLPYRUVATE
                                                                                                                                                      Glycolysis;
ACT_SITE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Penaeus monodon (Penoeid shrimp).
Eukaryota; Metazoa; Arthropoda; Crustacea; Malacostraca;
Eumalacostraca; Eucarida; Decapoda; Dendrobranchiata; Pe
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           EMBL; AB025326; BAA88479.1; -
HSSP; P56252; 1PDZ.
InterPro; IPR000941; Enolase.
Pfam; PF00113; enolase; 1.
                                                                                                                                                                               PRINTS; PR00148; ENOLASE. ProDom; PD000902; Enolase; 1. PROSITE; PS00164; ENOLASE; 1.
                                                                                                                                                                                                                                                                                                                                                                                                                                   SEQUENCE FROM N.A.
TISSUE=ABDOMINAL MUSCLES;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Glycolysis; Lyase; Magnesium.
NON_TER 1 1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 -!- SUBUNIT: HOMODIMER (BY SIMILARITY).
-!- SUBCELLULAR LOCATION: CYTOPLASMIC (BY SIMILARITY).
-!- SIMILARITY: TO THE ENOLASE FAMILY.
                                                                                                                                                                                                                     Pfam; PF00113; enolase; 1.
                                                                                                                                                                                                                                     InterPro; IPR000941; Enolase.
                                                                                                                                                                                                                                                                                                                                          H(2)O.
-!- COFACTOR: MAGNESIUM IS REQUIRED
                                                                                                                                                                                                                                                                                                                                                                                                                                                                             NCBI_TaxID=6687
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Penaeidae; Penaeus.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ProDom;
386
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               345
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        PROSITE;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   PRINTS;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       1 LVVGLCTCQIKTGPAC 16
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       9
        LVVGLCTGQIKTGAPC
                                 LVVGLCTCQIKTGPAC 16
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              LVVGLCTGQIKTGAPC 360
                                                         l Similarity 81.:
13; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        PD000902; Enolase; 1.; PS00164; ENOLASE; 1.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   PR00148; ENOLASE.
                                                                                                                          Lyase; Magnesium; Pyruvate.
343 343 BY SIMILARITY.
355 355 MAGNESIUM (BY SIMILARITY).
434 AA; 47265 MW; EB575C6FB541ABD3 CRC64;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   395 AA;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              PRELIMINARY;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 43131 MW;
                                                                       72.2%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            72.2%;
        401
                                                          Score 65; DB Pred. No. 0.00 0; Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Score 65;
Pred. No.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                D351C6700DDC75CD CRC64;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Mismatches
                                                                                                                                                                                                                                                                                                                                            FOR CATALYSIS AND
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Dendrobranchiata; Penaeoidea;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            434
                                                                       DB 5;
0.0014;
                                                                                                                                                                                                                                                                                        (BY SIMILARITY)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            DB 13;
0.0013;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           A
                                                                                    5.
                                                                                   Length 434;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Length 395;
                                                          Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Indels
                                                                                                                                                                                                                                                                                                                                            FOR
                                                                                                                                                                                                                                                                                                                                            STABILIZING
                                                          0;
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                                                          Gaps
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RESULT Q9W7LI ID W7 ID W
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     밁
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Best Local S
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Matches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Q9W7L1;
                                      Mannen H., Li S.S.-L.;

"Molecular evidence for a clade of turtles.";

Submitted (JUN-1998) to the EMBL/GenBank/DDBJ

EMBL; AF072588; AAD41645.1; -.

HSSP; P56252; 1PDZ.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      01-NOV-1999 (TrEMBLrel 12, C
01-NOV-1999 (TrEMBLrel 12, I
01-JUN-2001 (TrEMBLrel 17, I
ALPHA ENOLASE (EC 4.2.1.11).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  01-NOV-1999 (TrEMBLrel. 12, Created)
01-NOV-1999 (TrEMBLrel. 12, Last sequence update)
01-JUN-2001 (TrEMBLrel. 17, Last annotation update)
ENOLASE (EC 4.2.1.11) (2-PHOSPHOGLYCERATE DEHYDRATASE)
GLYCERATE HYDRO-LYASE).
                                                                                                                                                                                                                                                                                                                                                              Trachemys scripta elegans.
Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
Testudines; Cryptodira; Testudinoidea; Emydidae; Trachemys.
NCBI_TaxID-31138;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Glycolysis; Lyase; Magnesium.
ACT_SITE 341 341
METAL 353 353
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             "Molecular evidence for a clade of turtles.";
Submitted (JUN-1998) to the EMBL/GenBank/DDBJ databases.
-!- CATALYTIC ACTIVITY: 2-PHOSPHO-D-GLYCERATE = PHOSPHOENOLPYRUVATE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Sceloporus undulatus (Eastern fence lizard).
Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
Lepidosauria; Squamata; Iguania; Iguanidae; Phrynosomatinae;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       PRINTS; PR00148; ENOLASE.
ProDom; PD000902; Enolase; 1.
PROSITE; PS00164; ENOLASE; 1.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         InterPro; IPR000941; Enolase.
Pfam; PF00113; enolase; 1.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              EMBL; AF072587; AAD41644.1; -. HSSP; P56252; 1PDZ.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          -!- PATHWAY: GLYCOLYSIS.
!- SUBUNLT: HOMODIMER (BY SIMILARITY).
-!- SUBCELLULAR LOCATION: CYTOPLASMIC (
-!- SIMILARITY: TO THE ENOLASE FAMILY.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          \mbox{\ensuremath{H(2)0}}. -!- COFACTOR: MAGNESIUM IS REQUIRED FOR CATALYSIS AND FOR STABILIZING THE DIMER (BY SIMILARITY).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Q9W7L2;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Q9W7L2
                                                                                                                                                                                                                                            TISSUE=MUSCLE;
                                                                                                                                                                                                                                                                                  SEQUENCE FROM N.A.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               SEQUENCE
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 TISSUE=MUSCLE;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       SEQUENCE FROM N.A.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    NCBI_TaxID=8520;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      1 LVVGLCTCQIKTGPAC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             l Similarity
13; Conserv
IPR000941;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   434 AA;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              PRELIMINARY;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           PRELIMINARY;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  341 BY SIMILARITY.
353 MAGNESIUM (BY SIMILARITY)
47493 MW; 6E377E0F0A767E11 CRC64;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   72.2%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            16
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Last sequence update)
Last annotation update)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Created)
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Pred. No. 0.0014;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          434 AA
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RESULT OF PROPERTY OF PROPERTY
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Q9PVK2
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AC Q9
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DT 01
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Best Local S
Matches 13
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Best Local :
  Q9PVK2;
Q9PVK2;
01-MAY-2000
01-MAY-2000
01-JUN-2001
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     01-NOV-1999 (TrEMBLrel. 12, Created)
01-NOV-1999 (TrEMBLrel. 12, Last sequence update)
01-JUN-2001 (TrEMBLrel. 17, Last annotation update)
ENOLASE (EC 4.2.1.11) (2-PHOSPHOGLYCERATE DEHYDRATASE) (2-PHOSPHO-D-GLYCERATE HYDRO-LYASE).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Q9W7L0;
                                                                                                                                                                                                                                                                                                                                                                                                                SEQUENCE
                                                                                                                                                                                                                                                                                                                                                                                                                                 Glycolysis; Lyase; Magnesium.
ACT_SITE 341 341
METAL 353 353
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   PRINTS; PR00148; ENOLASE.
ProDom; PD000902; Enolase; 1.
PROSITE; PS00164; ENOLASE; 1.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 EMBL; AF072589; AAD41646.1; -HSSP; P56252; 1PDZ.
InterPro; IPR000941; Enclase.
Pfam; PF00113; enclase; 1.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Mannen H., Li S.S.-L.;
"Molecular evidence for a clade of turtles.";
Submitted (JUN-1998) to the EMBL/GenBank/DDBJ
-i- CATALYTIC ACTIVITY: 2-PHOSPHO-D-GLYCERATE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           -i- PATHWAY: GLYCOLYSIS.
-i- SUBUNIT: HOMODIMER (BY SIMILARITY).
-i- SUBCELLULAR LOCATION: CYTOPLASMIC (
-i- SIMILARITY: TO THE ENOLASE FAMILY.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 TISSUE-MUSCLE;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 NCBI_TaxID=51751;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
Lepidosauria; Squamata; Scleroglossa; Serpentes; Booidca; Pythonidae;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                PRINTS; PR00148; ENOLASE. ProDom; PD000902; Enolase
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       SEQUENCE FROM N.A.
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                                                                                                                                                                                                           384
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                                                                                                                                                                                                                                                                                                                      Local Similarity
                                                                                                                                                                                                                                                    1 LVVGLCTCQIKTGPAC 16
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               1 LVVGLCTCQIKTGPAC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                COFACTOR: MAGNESIUM IS REQUIRED FOR CATALYSIS AND FOR STABILIZING THE DIMER (BY SIMILARITY).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       H(2)0.
                                                                                                                                                                                                         LVVGLCTGQIKTGAPC
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               l Similarity
13; Conser
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          434 AA;
                                                                                                                                                                                                                                                                                                                                                                                                                353
434 AA;
                       (TrEMBLrel.
    (TrEMBLrel.
                                                                                                                                                                                                                                                                                                 Conservative
                                                                                          PRELIMINARY;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          47333 MW;
                                                                                                                                                                                                                                                                                                                                                                                                              47570 MW;
                                                                                                                                                                                                                                                                                                                    72.2%;
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  13,
13,
17,
Created)
Last sequence update)
Last annotation update)
                                                                                                                                                                                                                                                                                              0;
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                                                                                                                                                                                                                                                                                                                                                                                                  BY SIMILARITY.
MAGNESIUM (BY SIMILARITY).
F242F93E6D467033 CRC64;
                                                                                                                                                                                                                                                                                                                    Score 65; I
Pred. No. 0.
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                                                                                            PRT;
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                                                                                                                                                                                                                                                                                          Mismatches
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                                                                                                                                                                                                                                                                                                                    0014;
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                                                                                                                                                                                                                                                                                                                                         Length 434;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Length 434;
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                                                                                                                                                                                                                                                                                            Gaps
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RESULT
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                                                                                                                                                           SEQUENCE FROM STRAIN-LPO156_406;

STRAIN-LPO156_406;

Regler J.C., Shultz J.W.;

"Enolase as a phylogenetic marker.";

"Enolase as a phylogenetic marker.";

Submitted (APR-2000) to the EMBL/GenBank/DDBJ

Submitted (APR-201VITY: 2-PHOSPHO-D-GLYCERATE
                                                                                                                                                                                                                                                                                                                              Q9NG71;
Q1-QCT-2000 (TrEMBLrel. 15, Created)
Q1-QCT-2000 (TrEMBLrel. 15, Last sequence update)
Q1-JUN-2001 (TrEMBLrel. 17, Last annotation update)
Q1-JUN-2001 (TrEMBLrel. 17, Last annotation update)
ENOLASE (EC 4.2.1.11) (2-PHOSPHOGLYCERATE DEHYDRATASE)
GLYCERATE HYDRO-LYASE) (FRAGENT).
                           -!- PATHWAY: GLYCOLYSIS.
-!- SUBGUNIT: HOMODIMER (BY SIMILARITY).
-!- SUBCELULAR LOCATION: CYTOPLASMIC (
-!- SIMILARITY: TO THE ENOLASE FAMILY.
EMBL; AF258666; AAF72637.2; --
Interpro; IPRO00941; Enolase.
Pfam; PF00113; enolase; 1.
                                                                                                                              H(2)O.
-!- COFACTOR: MAGNESIUM IS REQUIRED THE DIMER (BY SIMILARITY).
                                                                                                                                                                                                                                                                                          Limulus polyphemus (Atlantic horseshoe crab)
Eukaryota; Metazoa; Arthropoda; Chelicerata;
Limulidae; Limulus.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      -!- PATHWAY: GLYCOLYSIS.
-!- SUBUNIT: HOMODIMER (BY SIMILARITY).
-!- SUBCELLULAR LOCATION: CYTOPLASMIC (
-!- SIMILARITY: TO THE ENOLASE FAMILY.
EMBL; AF072586; AAD41643.1;
-HSSP; P56252; 1PDZ.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         ENOLASE (EC 4.2.1.11) (2-PHOSPHOGLYCERATE DEHYDRATASE) (2-PHOSPHO-D-GLYCERATE HYDRO-LYASE).
Alligator mississippiensis (American alligator).
Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
Archosauria; Crocodylidae; Alligatorinae; Alligator.
                                                                                                                                                                                                                                                   SEQUENCE FROM N.A.
                                                                                                                                                                                                                                                                                                                                                                                                                                Q9NG71
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ProDom; PD000902; Enolase; 1. PROSITE; PS00164; ENOLASE; 1.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Mannen H., Li S.S.-L.;
"Molecular evidence for a clade of turtles.";
"Molecular Evidence For a clade of turtles.";
Mol. Phylogenet. Evol. 13:144-148(1999).
-i- CATALYTIC ACTIVITY: 2-PHOSPHO-D-GLYCERATE = PHOSPHOENOLPYRUVATE
                                                                                                                                                                                                                                                                               NCBI_TaxID=6850;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         SEQUENCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 PRINTS;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Pfam; PF00113;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     MEDLINE=99439677; PubMed=10508547;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    SEQUENCE FROM N.A.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              InterPro; IPR000941; Enolase.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              NCBI_TaxID=8496;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      384 LVVGLCTGQIKTGAPC 399
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      lycolysis; Lyase; Magnesium.
EQUENCE 434 AA; 47322 MW;
                                                                                                                                                                                                                                                                                                                                                                                                                                                            14
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Local
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   1 LVVGLCTCQIKTGPAC 16
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               COFACTOR: MAGNESIUM IS REQUIRED FOR CATALYSIS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  THE DIMER (BY SIMILARITY).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               13; Conserv
 PR00148; ENOLASE. PD000902; Enolase
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               PR00148; ENOLASE.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                               PRELIMINARY;
Enolase;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             72.2%;
81.2%;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Score 65;
                                                                                                                                                                                                                                                                                                                                                                                                                               PRT;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      DFD23524BECF5ECA CRC64;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Mismatches
                                                                                                                                               FOR
                                                                                                                                                                                                                                                                                                                                                                                                                               251
                                                                                    (BY SIMILARITY)
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                                                                                                                                              CATALYSIS
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                                                                                                                                                                                                                                                                                                         Merostomata; Xiphosura;
                                                                                                                                                                           databases
= PHOSPHOI
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RESULT
Q9NG73
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Search completed: May 8,
Job time: 112 sec
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Best Local Similarity
Matches 12; Conserv
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PRODOM; PD000902; Enclase; 1.
PROSTTE; PS00164; ENCLASE; 1.
Glycolysis; Lyase; Magnesium.
NON_TER 159 159
NON_TER 159 AA; 17547 MW;
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Q1-QCT-2000 (TrEMBLrel. 15, Created)
Q1-QCT-2000 (TrEMBLrel. 15, Last sequence update)
Q1-QCT-2000 (TrEMBLrel. 17, Last annotation update)
Q1-UUN-2001 (TrEMBLrel. 17, Last annotation update)
ENCLASE (EC 4.2.1.11) (2-PHOSPHOGLYCERATE DEHYDRATASE) (2-PHOSPHO-D-GLYCERATE HYDRO-LYASE) (FRAGMENT).
Eumesocampa frigilis.
Eumesocampa frigilis.
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SEQUENCE
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-I-COPACTOR: MAGNESIUM IS REQUIRED FOR CATALYSIS AND FOR STABILIZING THE DIMER (BY SIMILARITY).

-I- PATHWAY: GLYCOLYSIS.

-I- SUBGULIT: HOMODIMER (BY SIMILARITY).

-I- SUBGULILLIAR LOCATION: CYTOPLASMIC (BY SIMILARITY).

-I- SIMILARITY: TO THE ENOLASE FAMILY.

EMBL; AF258664; AAF72635.1; -.
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STRAIN-EFR248_407;
STRAIN-EFR248_407;
Regier J.C., Shultz J.W.;
"Enclase as a phylogenetic marker.";
Submitted (APR-2000) to the EMBL/GenBank/DDBJ databases.
-i- CATALYTIC ACTIVITY: 2-PHOSPHO-D-GLYCERATE = PHOSPHOENOLPYRUVATE +
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              PROSITE; PS00164; ENOLASE; 1. Glycolysis; Lyase; Magnesium.
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NCBI_TaxID=109745;
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Pfam; PF00113; enolase; 1.
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17547 MW;
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OM protein - protein search, using sw model
                                                                                   GenCore version 4.5 Copyright (c) 1993 - 2000 Compugen Ltd.
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ritle:
Perfect score:
Sequence: May 8, 2002, 11:44:44; Search time 10.17 Seconds (without alignments) 57.683 Million cell updates/sec

Run on:

US-09-647-457-2 90 1 LVVGLCTCQIKTGPAC 16

Scoring table: BLOSUM62 Gapop 10.0 , Gapext 0.5

100059 seqs, 36664827 residues

Searched:

Total number of hits satisfying chosen parameters: 100059

Minimum DB seq length: 0
Maximum DB seq length: 2000000000

Post-processing: Minimum Match 0% Maximum Match 100% Listing first 45 summaries

Database : SwissProt_39:*

Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.

SUMMARIES

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137	137	126	436	436	446	436	372	446	444	436	445
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THN6_HORVU	THN3_HORVU	THN1_WHEAT	ENO2_YEAST	ENO1_YEAST	ENO_PLAFA	ENO1_ENTHI	ENO_CHLRE	ENO1_MAIZE	ENO_MESCR	ENO_NEOFR	ENO_RICCO
P09618 hordeum vul										P42894 neocallimas	

ALIGNMENTS

DR DR DR DR DR FTT FTT	8 5 5 6 6 6 6 6 6 6 6 6 6 6 6 6 6 6 6 6	RESUI ENOL. ID DT
EMBL; X66610; CAA47179.1; HSSP; P56252; 1PDY. InterPro; IPR000941; Enclase. Pfam; PF00113; enclase; 1. PRINTS; PR00148; ENCLASE; 1. PRINTS; PR00164; ENCLASE; 1. PROSITE; PS00164; ENCLASE; 1. LYASE; Glycolysis; Magnesium; Multigene family. ACT_SITE 167 ACT_SITE 167 METAL 254 METAL 254 METAL 254 METAL 308 MAGNESIUM (BY SIMILARITY). METAL 308 MAGNESIUM (BY SIMILARITY). METAL 308 MAGNESIUM (BY SIMILARITY). SEQUENCE 458 AA; 49477 MW; 2590F34A28F44314 CRC64;	SEQUENCE FROM N.A. TISSUE=Lung fibroblast; MEDLINE=93372640; pubMed=7689884; MEDLINE=93372640; pubMed=7689884; MEDLINE=93372640; PubMed=7689884; Verma M., Kurl R.N.; "Human lung enolase: cloning and sequencing of cDNA and its inducibility with dexamethasone."; Biochem. Mol. Biol. Int. 30:293-303(1993)!- CATALYTIC ACTIVITY: 2-PHOSPHO-D-GLYCERATE = PHOSPHOENOLPYRUVATE + H(2)0!- COFACTOR: MAGNESIUM IS REQUIRED FOR CATALYSIS AND FOR STABILIZING -!- COFACTOR: MAGNESIUM IS REQUIRED FOR CATALYSIS AND FOR STABILIZING -!- PATHWAY: GLYCOLYSIS!- SUBUNIT: HOWODIMER (BY SIMILARITY)!- SUBUNIT: HOWODIMER (BY SIMILARITY)!- SUBCELLULAR LOCATION: CYTOPLASMIC (POTENTIAL)!- SUBCELLULAR LOCATION: CYTOPLASMIC (POTENTIAL)!- SUBCELLULAR LOCATION: STO THE EMOLASE FAMILY. This SWISS-PROT entry is copyright. It is produced through a collaboration between the Swiss Institute of Bioinformatics and the EMBL outstation-the European Bioinformatics Institute. There are no restrictions on its use by non-profit institutions as long as its content is in no way modified and this statement is not removed. Usage by and for commercial entities requires a license agreement (See http://www.isb-sib.ch/announce/or send an email to license@isb-sib.ch).	RESULT 1 ENOL_HUMAN STANDARD; PRT; 458 AA. QO5524; AC QO5524; DT 01-FEB-1995 (Rel. 31, Created) DT 01-FEB-1995 (Rel. 31, Last sequence update) DT 20-AUG-2001 (Rel. 40, Last annotation update) DE ALPHA ENOLASE, LUNG SPECIFIC (EC 4.2.1.11) (2-PHOSPHO-D-GLYCERATE HYDRO-LYASE) (NON-NEURAL ENOLASE) (NNE) (PHOSPHOPYRUVATE HYDRATASE). DE HYDRO-LYASE) (NON-NEURAL ENOLASE) (NNE) (PHOSPHOPYRUVATE HYDRATASE). SOS HOMO Sapiens (Human). OS Homo sapiens (Human). OS Homo sapiens (Human). OC Mammalia; Eutheria; Primates; Catarrhini; Hominidae; Homo. NCBL_TaxID-9606;

Query Match

82.2%; Score 74; DB 1; Length 458;

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RESULT 2
ENOA_BOVIN
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                                                                Matches
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                                                                                                                                                                                                                                                                                                                                                                                                                        -I- COPACTOR: MAGNESIUM IS REQUIRED FOR CATALYSIS AND FOR STABILITY THE DIMER (BY SIMILARITY).
-I- PATHWAY: GLYCOLYSIS.
-I- SUBGUNIT: HOMODIMER (BY SIMILARITY).
-I- SUBCELLULAR LOCATION: CYTOPLASMIC (BY SIMILARITY).
-I- TISSUE SPECIFICITY: THREE CLASSES OF ENCLASE ISCENZYMES HAVE IDENTIFIED IN MAMMALIAN TISSUES. ISCENZYME ALPHA IS PRESENT I MOST TISSUES, BETA IS LOCALIZED IN MUSCLE TISSUE, AND GAMMA I FOUND ONLY IN NERVOUS TISSUE.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Δυκαιγοτα; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi; Mammalia; Eutheria; Cetartiodactyla; Ruminantia; Pecora; Bovoidea Bovinae; Bos.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             20-AUG-2001 (Rel. 40, Created)
20-AUG-2001 (Rel. 40, Last sequence update)
20-AUG-2001 (Rel. 40, Last annotation update)
20-AUG-2001 (Rel. 40, Last annotation update)
ALPHA ENOLASE (EC 4.2.1.11) (2-PHOSPHO-D-GLYCERATE HYDRO-LYASE) (NON-
NEURAL ENOLASE) (NNE) (PHOSPHOPYRUVATE HYDRATASE).
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                                     1 LVVGLCTCQIKTGPAC 16
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317 317 MAGNESIUM (
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RRESULT 3

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01-NOV-1995 (Rel. 32, Created)
01-NOV-1995 (Rel. 32, Last sequence update)
15-JUL-1998 (Rel. 36, Last annotation update)
ENOLASE (EC 4.2.1.11) (2-PHOSPHOGLYCERATE DEHYDRATASE) (2-PHOSPHO-D-GLYCERATE HYDRO-LYASE) (FRAGMENT).
                                               p19140;
01-NOV-1990 (Rel. 16, Created)
01-NOV-1990 (Rel. 16, Last sequence update)
15-JUL-1998 (Rel. 36, Last annotation update)
ALPHA ENOLASE (EC 4.2.1.11) (2-PHOSPHO-D-GLYCERATE HYDRO-LYASE) (TAU-CRYSTALLIN).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 METAL
NON_TER
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               ACT_SITE
METAL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        InterPro; IPR000941; ENGLASE: 1.
Pfam; Pf00113; englase; 1.
ProDom; PD000902; ENGLASE; 1.
PROSITE; PS00164; ENGLASE; 1.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 This SWISS-PROT entry is copyright. It is produced through a collaboration between the Swiss Institute of Bioinformatics and the EMBL outstation the European Bioinformatics Institute. There are no restrictions on its use by non-profit institutions as long as its content is in no way modified and this statement is not removed. Usage by and for commercial modified and this statement is not removed. Usage by and for commercial
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  "Molecular evidence for the origin of birds.";
Proc. Natl. Acad. Sci. U.S.A. 91:2621-2624(1994).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            SEQUENCE FROM
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Alligator mississippiensis (American alligator).
Eukaryota; Metazoa; Chordata; Craniata; Vertebrata;
Archosaunia; Crocodylidae; Alligatorinae; Alligator
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             ENO_ALLMI
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          EMBL; L28078; AAA53671.1; -. HSSP; P56252; 1PDY.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                SEQUENCE FROM N.A.
MEDLINE=94195794; PubMed=8146164;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           NCBI_TaxID-8496;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           SEQUENCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     or send an email to license@isb-sib.ch).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Hedges S.B.;
                        Anas platyrhynchos
                                                                                                                                                                                                                ENOA_ANAPL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Lyase; Glycolysis; Magnesium.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   entities requires a license agreement (See http://www.isb-sib.ch/announce/
                                                                                                                                                                                                                                                                                                                                                     362
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      METAL
                                                                                                                                                                                                                                                                                                                                                                                                    1 LVVGLCTCQIKTGPAC 16
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                THE DIMMEN (BY SIMILARITY).

SUBUNIT: HOMODIMER (BY SIMILARITY).

SUBUNIT: HOMODIMER (BY SIMILARITY).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       COFACTOR: MAGNESIUM IS REQUIRED FOR CATALYSIS AND
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     SIMILARITY: BELONGS TO THE ENOLASE FAMILY.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       CATALYTIC ACTIVITY: 2-PHOSPHO-D-GLYCERATE = PHOSPHOENOLPYRUVATE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            THE DIMER (BY SIMILARITY).
                                                                                                                                                                                                                                                                                                                                                  LVVGLCTGQIKTGAPC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       P56252;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           395
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    136
223
271
296
395
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                                                                                                                                                                                                                  STANDARD;
                           (Domestic
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          136
223
271
296
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81.2%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             BY SIMILARITY.
MAGNESIUM (BY S
MAGNESIUM (BY S
MAGNESIUM (BY S
                                                                                                                                                                                                                                                                                                                                                                                                                                                            0;
                           duck)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Score 65; DB 1;
Pred. No. 0.004;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           B43E91228E9110B5 CRC64;
                                                                                                                                                                                                                  PRT;
                                                                                                                                                                                                                                                                                                                                                                                                                                                            Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   395 AA.
                                                                                                                                                                                                                  433 AA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Y SIMILARITY).
Y SIMILARITY).
Y SIMILARITY).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Length 395;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          FOR STABILIZING
                                                                                                                                                                                                                                                                                                                                                                                                                                                              0;
                                                                                                                                                                                                                                                                                                                                                                                                                                                              Gaps
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Eukaryota;

Metazoa;

Chordata;

Craniata; Vertebrata;

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RESULT 5
ENOA_CHICK
ID ENOA_C
AC P51913
DT 01-OCT
DT 01-OCT
DT 15-JUL
DE ALPHA
DE (PHOSP
OS Gallus
OC Archos
OC Archos
OC Gallus
OC RUBLT
RN (1)
RP SEQUEN
RC STRAIN
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Query Match
Best Local S
Matches 13
                                                                                                                                                                                                                                                                                   P51913;

D1-OCT-1996 (Rel. 34, Created)

O1-OCT-1996 (Rel. 34, Last sequence update)

15-JUL-1998 (Rel. 36, Last annotation update)

ALPHA ENOLASE (EC 4.2.1.11) (2-PHOSPHO-D-GLYCERATE HYDRO-LYASE)

(PHOSPHOPYRUVATE HYDRATASE).
STRAIN-WHITE LEGHORN; TISSUE-Kidney;
                                           SEQUENCE FROM N.A
                                                                                                                                                                                                                            Gallus gallus (Chicken).
Eukaryota; Metazoa; Chor
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           METAL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          INIT_MET ACT_SITE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               This SWISS-PROT entry is copyright. It is produced through a collaboration between the Swiss Institute of Bioinformatics and the EMBL outstation the European Bioinformatics Institute. There are no restrictions on its use by non-profit institutions as long as its content is in no way modified and this statement is not removed. Usage by and for commercial entities requires a license agreement (See http://www.isb-sib.ch/announce/or send an email to license@isb-sib.ch).
                                                                                                                                                                                     Archosauria; Aves; Neognathae;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                PRINTS; PR00148; ENOLASE.
ProDom; PD000902; Enolase;
PROSITE; PS00164; ENOLASE;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         EMBL; M20749; AAA49218.1; -.
EMBL; X14195; CAA32409.1; -.
PIR; A32132; A32132
HSSP; P56252; 1PDY.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              lens structural protein.",
J. Cell Biol. 107:2729-2736(1988).
-I- FUNCTION: BOTH AN ENXYME AND A LENS
-I- CATALYTIC ACTIVITY: 2-PHOSPHO-D-GLYC
                                                                                                              NCBI_TaxID=9031;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    ENOA_CHICK
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        SEQUENCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Pfam; PF00113; enolase;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        -i- COFACTOR: MAGNESIUM IS REQUIRED FOR CATALYSIS AND FOR STABILIZING THE DIMER.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Wistow G.J., Lietman T., Williams L.A., Horwitz J., Piatigorsky J.;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               METAL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Lyase;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  MEDLINE=89079778; PubMed=2462567;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     SEQUENCE FROM N.A
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Archosauria; Aves; Neognathae; Anseriformes; Anatidae; Anas.
NCBI_TaxID=8839;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 383
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        "Tau-crystallin/alpha-enolase: one gene encodes both an enzyme
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          interPro; IPR000941; Enolase
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    1 LVVGLCTCQIKTGPAC 16
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             PATHWAY: GLYCOLYSIS. SUBUNIT: HOMODIMER.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  SIMILARITY: BELONGS TO THE ENOLASE FAMILY.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      SUBCELLULAR LOCATION: CYTOPLASMIC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         LVVGLCTGQIKTGAPC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ;; Glycolysis; Magnesium; E
0 0 8y
iTE 157 157 84
244 244 MA
292 292 MA
317 317 MA
NCE 433 AA; 47108 MW;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Similarity
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    STANDARD;
                                                                                                                                                                                     Chordata; Craniata; Vertebrata; Eute
Neognathae; Galliformes; Phasianidae;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              72.2%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         398
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            MAGNESIUM (BY MA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Score 65;
Pred. No.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    PRT;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Eye lens protein.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        AGNESIUM (BY SIMILARITY).
AGNESIUM (BY SIMILARITY).
AGNESIUM (BY SIMILARITY).
1AED78B08A66E84D CRC64;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                433
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  0
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0.0043;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      STRUCTURAL PROTEIN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                A
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Length 433;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              PHOSPHOENOLPYRUVATE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Indels
                                                                                                                                                                                                                Euteleostomi;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       de Jong W.W.,
                                                                                                                                                                                 Phasianinae;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                and
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В
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                                                                                                                                                                                                                                                                                                                                                  RESULT
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                                                                                                                                                                                                                                                                                                                                                                                                                                                      Matches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Query Match
Best Local
                                                                                                                                                                                                                                      ENOA_HUMAN STANDARD; PRT; 433 AA. P06733; Q16704; Q9UM55; 01-JAN-1988 (Rel. 06, Created) 01-APR-1988 (Rel. 07, Last sequence update) 20-AUG-2001 (Rel. 40, Last annotation update) ALPHA ENOLASE (EC 4.2.1.11) (2-PHOSPHO-D-GLYCERATE HYDRO-LYASE) (NON-RELATE HYDRO-LYASE) (NON-RELATE HYDRO-LYASE)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           METAL
SEQUENCE
                                                                             Giallongo A., Feo S., Moore R., Croce C.M., Molecular cloning and nucleotide sequence
                                                                                                                                                                      Eukaryota; Metazoa;
Mammalia; Eutheria;
                                                                                                                                                                             ENO1 OK LWWILL Homo sapiens (Human).

Morazoa; Chordata;
                                                                                                                                                                                                                   NEURAL ENCLASE) (NNE) (PHOSPHOPYRUVATE HYDRATASE).
                        SEQUENCE FROM N.A.
                                                                                                         SEQUENCE FROM N.A.
MEDLINE=86313654; PubMed=3529090;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   the European Bioinformatics Institute. There are no restrictions on its use by non-profit institutions as long as its content is in no way modified and this statement is not removed. Usage by and for commercial entitles requires a license agreement (See http://www.isb-sib.ch/announce/
          MEDLINE-90323004;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            -i- PATHWAY: GLYCOLYSIS.
-i- SUBURIT: HOMODIMER (BY SIMILARITY).
-i- SUBCELLULAR LOCATION: CYTOPLASMIC.
-i- SIMILARITY: BELONGS TO THE ENOLASE FAMILY.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              J. Biochem. 117:554-559(1995).
-!- CATALYTIC ACTIVITY: 2-PHOSPHO-D-GLYCERATE =
                                                      Proc. Natl.
                                                                                                                                                         NCBI_TaxID=9606;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         METAL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Lyase; Glycolysis;
INIT_MET 0
ACT_SITE 157
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ProDom; PD000902; Enolase;
PROSITE; PS00164; ENOLASE;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               or send an email to license@isb-sib.ch).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   This SWISS-PROT entry is copyright. It is produced through a collaboration between the Swiss Institute of Bioinformatics and the EMBL outstation the European Bioinformatics Institute. There are no restrictions on its
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     -!- COFACTOR: MAGNESIUM IS REQUIRED THE DIMER (BY SIMILARITY).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Tanaka M., Maeda K., Nakashima K.; "Chicken alpha-enclase but not beta-enclase has tyrosine-phosphorylation site: cDNA cloning and
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           PRINTS; PR00148; ENOLASE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      HSSP; P56252;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  EMBL; D37900; BAA07132.1; -.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 analysis.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      InterPro; IPR000941; Enolase.
                                                                                                                                                                                                                                                                                                                                                                                            383 LVVGLCTGQIKTGAPC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Local Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                        1 LVVGLCTCQIKTGPAC 16
                                                                    alpha
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       PF00113; enolase;
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                                                      Acad.
                                                                    enolase."
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                                                     Sci.
          PubMed=2373081;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Magnesium;
                                                                                                                                                                         Primates;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                 72.2%;
81.2%;
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                                                   U.S.A. 83:6741-6745(1986).
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Pred. No. 0.0043;
0; Mismatches
                                                                                                                                                                    Catarrhini; Hominidae;
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                                                                                                                                                                                   Craniata; Vertebrata; Euteleostomi;
                                                                                              Croce C.M.,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       FOR
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                family.
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                                                                             , Showe L.C.;
of a full-length cDNA
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Length 433;
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nucleotide sequ
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                                                                                                                                                                      Homo
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Giallongo A., Oliva D.,

Cali L.,

Barba G.,

Barbieri G.,

Feo s :

METAL

MAGNESIUM

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TARANA SA TARANA SA TARANA SA TARANA SA TARANA SA SA SA SA SA SA SA SA TARANA SA TARAN
                                                                                                                                                                                                                                                                                                                                EMBL; M14328; AAA52387.1; -
EMBL; X16288; CAA34360.1; J
EMBL; X16289; CAA34360.1; J
EMBL; X16290; CAA34360.1; J
EMBL; X84907; CAA59331.1; -
EMBL; W84907; CAA59335.1; -
EMBL; W84968; AAC3935.1; -
PIR; A29170; A29170.
PIR; S11696; S11696.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        MEDLINE=97295306; PubMed=9150948;
Ji H., Reid G.E., Moritz R.L., Eddes J.S., Burge
"A two-dimensional gel database of human colon c-
Electrophoresis 18:605-613(1997).
-i- CAPALYTIC ACTIVITY: 2-PHOSPHO-D-GLYCERATE =
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              SEQUENCE OF 269-280 AND 306-320, MEDILINE-95307697; PubMed-7787969; Mohamad R.M., Hamdan M.Y., Maki A., FINDUCED Expression of alpha-enolase cell lymphoma."
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               MEDLINE-96422099; PubMed-8824716; Walter M., Leidenberger F.A., Schweppe K.W., Berg H., Northemann "Autoreactive epitopes within the human alpha-enolase and their recognition by sera from patients with endometriosis."; J. Autoimmun. 8:937-945(1995).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      entitles requires a license agreement (See http://www.isb-sib.ch/announce/or send an email to license@isb-sib.ch).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            modified and this statement
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             TISSUE=Colon carcinoma;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        SEQUENCE OF 1-8.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Enzyme Protein 48:37-44(1995).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Genomics 50:187-198(1998).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Onyango P., Lubyova B., Gardellin
"Molecular cloning and expression
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         MEDLINE=98317532; PubMed=9653645;
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                                                                                                          PROSITE;
                                                                                                                                                                                     Pfam; PF00113;
                                                                                                                                                                                                                                                           Aarhus/Ghent-2DPAGE;
                                                                                                                                                                                                                                                                                        Aarhus/Ghent-2DPAGE;
                                                                                                                                                                                                                                                                                                                   HSSP; P56252; 1PDY
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       between
                                ACT_SITE
                                                                                                                                                                                                           InterPro;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            European Bioinformatics Institute. There are no rest
by non-profit institutions as long as its content
ified and this statement is not removed. Usage by ar
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       SUBCELLULAR LOCATION: CYTOPLASMIC.
TISSUE SPECIFICITY: THREE CLASSES OF ENOLASE ISOENZYMES HAVE IDENTIFIED IN MAMMALIAN TISSUES. ISOENZYME ALPHA IS PRESENT!
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               PATHWAY: GLYCOLYSIS SUBUNIT: HOMODIMER.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                COFACTOR: MAGNESIUM
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  SIMILARITY: BELONGS TO THE ENOLASE FAMILY.
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                                                                                                                                                                                                                                        172430;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 SWISS-PROT entry is copyright. It is produced through a collaboration en the Swiss Institute of Bioinformatics and the EMBL outstation -
  Glycolysis; Magnesium;
ET 0 0
TE 157 157 E
244 244 N
                                                                                                     PD000902; Enolase; PS00164; ENOLASE;
                                                                                                                                                                                                           IPR000941;
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                                                                                                                                                                                     enolase;
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5406;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                         JOINED.
                                                                                                                                                                                                                                                                NEPHGE.
BY SIMILARITY.
MAGNESIUM (BY SIMILARITY).
                                                                             Multigene family.
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e in differentiated
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         There are no restrictions on
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Usage
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RESULT 7
ENOA_MOUSE
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RA Alzawa K., Izawa M., Nishi K., Kiyosawa H., Kondo S., Yamanaka I.,
RA Alzawa K., Izawa M., Nishi K., Kiyosawa H., Kondo S., Yamanaka I.,
RA Alzawa K., Izawa M., Nishi K., Kiyosawa H., Kasukawa T., Saito R.,
RA Kadota K., Matsuda H.A., Ashburner M., Batalov S., Casavant T.,
RA Kadota K., Matsuda H.A., Ashburner M., Batalov S., Casavant T.,
RA Kuchi P., Lewis S., Matsuo Y., Nikaido I., Pesole G., Quackenbush J.,
RA Kuchi P., Lewis S., Matsuo Y., Nikaido I., Pesole G., Quackenbush J.,
RA Kuchi P., Staubi F., Suzuki R., Tomita M., Wagner L., Washio T.,
RA Schrimi L.M., Staubi F., Suzuki R., Tomita M., Wagner L., Washio T.,
RA Sakai K., Okido T., Furuno M., Aono H., Baldarelli R., Barsh G.,
RA Blake J., Boffelli D., Bojunga N., Carninci P., de Bonaldo M.F.,
RA Brownstein M.J., Bult C., Fletcher C., Fujita M., Gariboldi M.,
RA Gustincich S., Hill D., Hofmann M., Hume D.A., Kamiya M., Lee N.H.,
RA Gustincich S., Hill D., Hofmann M., Hume D.A., Kamiya M., Lee N.H.,
RA Mordone P., Ring B., Ringwald M., Rodriguez I., Sakamoto N.,
RA Nordone P., Ring B., Ringwald M., Rodriguez I., Sakamoto N.,
RA Sasaki H., Sato K., Schoenbach C., Seya T., Shibata Y., Storch K.-F.,
RA Suzuki H., Toyo-oka K., Wang K.H., Weitz C., Whittaker C., Wilming L.,
RA Winshaw-Boris A., Yoshida K., Hasegawa Y., Kawaji H., Kohtsuki S.,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Matches
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Best Local
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CONFLICT
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P17182; Q9DCY7;

01-AUG-1990 (Rel. 15, Created)

20-AUG-2001 (Rel. 40, Last sequence update)

20-AUG-2001 (Rel. 40, Last annotation update)

ALPHA ENOLASE (EC 4.2.1.11) (2-PHOSPHO-D-GLYCERATE HYDRO-LYASE) (NON-
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              SEQUENCE
                                                                                                                                                                                 "Functional annotation of a full-length mouse cDNA collection.";
"Functional annotation of a full-length mouse cDNA collection.";
Nature 409:685-690(2001).
-i- CATALYTIC ACTIVITY: 2-PHOSPHO-D-GLYCERATE = PHOSPHOENOLPYRUV
                                                                                                                                                                                                                                                   Wynshaw-Boris A., Yoshida
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          STRAIN=C57BL/6J; TISSUE=Kidney;
MEDLINE=21085660; PubMed=11217851;
Kawai J., Shinagawa A., Shibata K.,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Eukaryota; Metazoa;
Mammalia; Eutheria;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         "Nucleotide sequences of cDNAs alpha and mouse brain.";
                                                                                                                                                -!- COFACTOR: MAGNESIUM
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    SEQUENCE FROM N.A.
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                               SUBCELLULAR LOCATION: CYTOPLASMIC.
TISSUE SPECIFICITY: THREE CLASSES OF ENOLASE ISOENZYMES HAVE
IDENTIFIED IN MAMMALIAN TISSUES. ISOENZYME ALPHA IS PRESENT 1
                                                                                       PATHWAY: GLYCOLYSIS. SUBUNIT: HOMODIMER.
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Caput D.;
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317
351
47037
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Rodentia;
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81.2%;
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                                                                                                                                                \mathbf{SI}
                                                                                                                                                                                     2-PHOSPHO-D-GLYCERATE = PHOSPHOENOLPYRUVATE
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F -> S (IN
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Pred. No.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Craniata; Vertebrata; Euteleostomi; Sciurognathi; Muridae; Murinae; Murinae; Murinae;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              AGNESIUM (BY SIMILARITY).
AGNESIUM (BY SIMILARITY).
-> S (IN REF. 3).
B2028684C33140B5 CRC64;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Yoshino M.,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         0.0043;
                                                                                                                                                  CATALYSIS
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Itoh M.,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Ishii Y.,
Fukuda S.,
manaka I.,
Saito R.,
                                                                                                                                                  STABILIZING
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MOST TISSUES, FOUND ONLY IN

BETA IS NERVOUS

LOCALIZED IN MUSCLE TISSUE.

TISSUE,

AND GAMMA

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RESULT
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                                                                                                                                  SEQUENCE FROM N.A.
SEQUENCE FROM N.A.
MEDITNE-85242108; PubMed-2989793;
MEDITNE-85242108; PubMed-2989793;
Meditoria K., Kushiya E., Obinata M., Takahashi Y.;
Sakimura K., Kushiya E., Obinata M., Takahashi Y.;
Molecular cloning and the nucleotide sequence of cDNA to mR non-neuronal enolase (alpha alpha enolase) of rat brain and "--1-1-1 Acids Res. 13:4365-4378(1985).
                                                                                                                                                                                                                                                                                                                                                                    ENOA_RAT
P04764;
13-AUG-1987
13-AUG-1987
                                                                                                                                                                                                                                                                                                                                                                                                                             RAT
                                                                                                                                                                                                                                                                   Rattus norvegicus (Rat).
Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
Mammalia; Eutheria; Rodentia; Sciurognathi; Muridae; Murinae; Rat
                                                                                                                                                                                                                                                                                                                                13-AUG-1987 (Rel. 05, Created)
13-AUG-1987 (Rel. 05, Last sequence update)
15-JUL-1998 (Rel. 36, Last annotation update)
ALPHA ENOLASE (EC 4.2.1.11) (2-PHOSPHO-D-GLYCERATE HYDRO-LYASE) (NON-
                                                                                                           Submitted (JAN-1986)
                                                                                                                                                                                                                                                                                                                            NEURAL ENOLASE) (NNE).
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ACT_SITE
                                                                                                                          Takahashi Y
                                                                                                                                                                                                                                                            NCBI_TaxID=10116;
                                                                                                                                                                                                                                                                                                                 ENO1 OR ENO-1
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SWISS-2DPAGE; P17182; MOUSE.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     the European Bioinformatics Institute. There are no restrictions on its use by non-profit institutions as long as its content is in no way modified and this statement is not removed. Usage by and for commercial entities requires a license agreement (See http://www.isb-sib.ch/announce/
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               This
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             or send an email to license@isb-sib.ch).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           PRINTS;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     InterPro;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                               383 LVVGLCTGQIKTGAPC 398
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PATHWAY: GLYCOLYSIS.
SUBUNIT: HOWODIMER.
SUBCELLULAR LOCATION: CYTOPLASMIC.
TISSUE SPECIFICITY: THREE CLASSES
                                                                                            CATALYTIC ACTIVITY:
                                                                    COFACTOR: MAGNESIUM
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                                                        THE DIMER.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    l Similarity
13; Conserv
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Glycolysis; Magnesium; Multigene family.
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81.2%;
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2-PHOSPHO-D-GLYCERATE
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MAGNESIUM (BY SIMILARITY).
L -> P (IN REF. 1).
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                                                                  FOR CATALYSIS
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 ENOLASE
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= PHOSPHOENOLPYRUVATE
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ISOENZYMES
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                                                                                                                                                                                                                                                                        Murinae; Rattus
                                                                  FOR
                                                                  STABILIZING
 HAVE BEEN
                                                                                                                                                                             liver.";
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Best Local
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                                                                                                                                                                                                                                                                                                                                   SEQUENCE FROM N.A.
STRAIN-WHITE LEGHORN; TISSUE-Muscle;
MEDLINE-95355305; PubMed=7629021;
Tanaka M., Maeda K., Nakashima K.;
Thicken alpha-enclase but not beta-enclase has a Src-dependent
"Chicken alpha-enclase but not beta-enclase has a src-dependent
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  01-APR-1988 (Rel. 07, Created)
01-OCT-1996 (Rel. 34, Last sequence update)
15-JUL-1998 (Rel. 36, Last annotation updat
BETA ENOLASE (EC 4.2.1.11) (2-PHOSPHO-D-GLY
(PHOSPHOPYRUVATE HYDRATASE).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      _CHICK
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          This SWISS-PROT entry is copyright. It is produced through a collaboration between the Swiss Institute of Bioinformatics and the EMBL outstation the European Bioinformatics Institute. There are no restrictions on its use by non-profit institutions as long as its content is in no way modified and this statement is not removed. Usage by and for commercial entities requires a license agreement (See http://www.isb-sib.ch/announce/or send an email to license@isb-sib.ch).
                                                                                                        Biochem.
                                                                                                                                   enolase."
                                                                                                                                                                                   MEDLINE=87075592; PubMed=3539098; Russell G.A., Dunbar B., Fothergill Gilmore L.A.;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi; Archosauria; Aves; Neognathae; Galliformes; Phasianidae; Phasiani
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         P07322;
01-APR-1988
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                                                                                                                                                              Russell G.A., Dunbar B., Fothergil
                                                                                                                                                                                                                                                           SEQUENCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    NCBI_TaxID=9031;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Gallus gallus (Chicken)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ENOB_CHICK
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      Lyase;
      Glycolysis;
      Magnesium;
      Multigene family.

      INIT_MET
      0
      0

      ACT_SITE
      157
      157

      METAL
      244
      MAGNESIUM (BY SIMI METAL

      METAL
      292
      292

      MAGNESIUM (BY SIMI MAGNESIUM (BY SIMI METAL)
      317

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                                                                                                                                                                                                                                                                                                           Biochem. 117:554-559(1995).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        1 LVVGLCTCQIKTGPAC 16
                 COFACTOR: MAGNESIUM IS REQUIRED FOR CATALYSIS AND FOR STABILIZING
                                                                          CATALYTIC ACTIVITY:
                                                     + H(2)0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         IDENTIFIED IN MAMMALIAN TISSUES. ISOENZYME ALPHA IS PRESENT MOST TISSUES, BETA IS LOCALIZED IN MUSCLE TISSUE, AND GAMMA FOUND ONLY IN NERVOUS TISSUE.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Similarity
                                                     J. 236:115-126(1986).
LYTIC ACTIVITY: 2-PHOSPHO-D-GLYCERATE = PHOSPHOENOLPYRUVATE
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(2-PHOSPHO-D-GLYCERATE HYDRO-LYASE)
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W; F1A25F010C276E7C (
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Pred. No.
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0.0043;
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Best Local
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01-JAN-1990
01-OCT-1993
20-AUG-2001
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CONFLICT
CONFLICT
CONFLICT
                                                                                                                                                                                                                                                                                                                          01-JAN-1990 (Rel. 13, Created)
01-OCT-1993 (Rel. 27, Last sequence update)
20-AUG-2001 (Rel. 40, Last annotation update)
BETA ENCLASE (EC 4.2.1.11) (2-PHOSPHO-D-GLYCERATE HYDRO-LYASE)
(SKELETAL MUSCLE ENCLASE) (MSE).
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       HUMAN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      PRINTS; PR00148; ENOLASE. ProDom; PD000902; Enolase; PROSITE; PS00164; ENOLASE;
SEQUENCE FROM N.A.

MEDLINE-90067857; PubMed=2587223;

Peshavaria M., Hinks L.J., Day I.N.M.;

"Structure of human muscle (beta) enolase mRNA and from a genomic clone.";
                                                                                                                                                                                                            Eukaryota; Metazoa;
Mammalia; Eutheria;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 EMBL; D37901; BAA07133.1; -. PIR; A23850; A23850.
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-!- SUBUNIT: HOMODIMER.
-!- SUBCELLULAR LOCATION: CYTOPLASMIC.
-!- SIMILARITY: BELONGS TO THE ENOLASE FAMILY.
                                                                                                                                                                                                                                                                      Homo sapiens (Human).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ENOB_HUMAN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        SEQUENCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       CONFLICT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  CONFLICT
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Lyase;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          InterPro; IPR000941; Enolase.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           383 LVVGLCTGQIKTGAPC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  1 LVVGLCTCQIKTGPAC
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         P56252; 1PDY
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            l Similarity
13; Conser
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Glycolysis; Magnesium; Multigene family; Acetylation.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               16
48
93
118
208
208
257
265
269
269
308
3122
332
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           STANDARD;
                                                                                                                                                                                                            Chordata;
Primates;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            47065
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       72.2%;
81.2%;
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BY SIMILARITY.

MAGNESIUM (BY SIMILARITY).

MAGNESIUM (BY SIMILARITY).

MAGNESIUM (BY SIMILARITY).

E -> D (IN REF. 2).

P -> L (IN REF. 2).

P -> L (IN REF. 2).

CK -> SH (IN REF. 2).

G -> D (IN REF. 2).

H -> D (IN REF. 2).

H -> DP (IN REF. 2).

F -> S (IN REF. 2).

Y -> L (IN REF. 2).

T -> A (IN REF. 2).

KT -> G (IN REF. 2).

KT -> EO (IN REF. 2).

KT -> EO (IN REF. 2).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Score 65;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Pred. No. 0.0043;
                                                                                                                                                                                                            Craniata; Vertebrata; Catarrhini; Hominidae;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              PRT;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     9BC2FB5FB910C254 CRC64;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   DB 1;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Length 433;
                                 protein
                                                                                                                                                                                                                                              Euteleostomi;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         a collaboration
                                       deduced
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                                                                                              SO THE TETT TO DRAW TO
      Query Match
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            PIR; S15933; S15933.

PIR; S06756, S06756.

PIR; S14759; S14759.

PIR; S31650; S31650.

PIR; S33330; S33330.
                                                                                                                       CONFLICT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        between the Swiss Institute of Bioinformatics and the EMBL outstation—the European Bioinformatics Institute. There are no restrictions on its use by non-profit institutions as long as its content is in no way modified and this statement is not removed. Usage by and for commercial entities requires a license agreement (See http://www.isb-sib.ch/announce/or send an email to license@isb-sib.ch).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | SEQUENCE FROM N.A.
MEDLINE-93292497; PubMed=8513787;
MEDLINE-93292497 | Venturella S., Oliva D., Barbieri G.,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             SEQUENCE FROM N.A. MEDLINE=91222137; PubMed=1840492; Peshavaria M., Day I.N.M.;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Nucleic Acids Res. [2]
                                                                                                                                                                                    METAL
                                                                                                                                                                                                                                                                                                                                                               PRINTS; PR00148; ENOLASE. ProDom; PD000902; Enolase; PROSITE; PS00164; ENOLASE;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            EMBL; X16504; CAA34513.1; -. EMBL; X51957; CAA36216.1; -. EMBL; X55976; CAA39446.1; -. EMBL; X56822; CAA40163.1; -.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    This SWISS-PROT entry is copyright. It is produced through a collaboration between the Swiss Institute of Bioinformatics and the EMBL outstation -
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Eur. J. Biochem. 214:367-374(1993).
-I- CATALYTIC ACTIVITY: 2-PHOSPHO-D-GLYCERATE = PHOSPHOENOLPYRUVATE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   enolase
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    MEDLINE-90245587; PubMed-2336366; Cali L., Feo S., Oliva D., Giallongo A.;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 SEQUENCE FROM N.A.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           HSSP; P56252
MIM; 131370;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Differential splicing forms of mRNA.";
                                                                                              SEQUENCE
                                                                                                                                                                                                                  METAL
                                                                                                                                                                                                                                                                                                                                                                                                                                                    InterPro; IPR000941; Enolase.
Pfam; PF00113; enolase; 1.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Nucleic Acids
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           "Nucleotide sequence of a cDNA encoding the human muscle-specific
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               "Molecular structure of the human muscle-specific enolase gene
                                                                                                                                                                                                                                              METAL
                                                                                                                                                                                                                                                                                                                                .yase;
                                                                                                                                                                                                                                                                                                                                                                                                                                                 Pfam; PF0011
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Structural features of the human gene
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         (ENO3)."
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     SUBUNIT: HOMODIMER.
SUBCELLULAR LOCATION: CYTOPLASMIC.
SUBCELLULAR LOCATION: CYTOPLASMIC.
SUBCELLULAR LOCATION: CYTOPLASMIC.
SUBCELLULAR LOCATION: CYTOPLASMIC.
SUBCELLULAR LOCATION: GYPEN HAVE BEEN IN SUBCELLULAR IS PRESENT IN IDENTIFIED IN MAMMALIAN TISSUES. ISOENZYME ALPHA IS PRESENT IN IDENTIFIED IN MUSCLE TISSUE, AND GAMMA IS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          MOST TISSUES, BETA IS LOCALIZED IN MUSCLE FOUND ONLY IN NERVOUS TISSUE.
SIMILARITY: BELONGS TO THE ENOLASE FAMILY.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              COFACTOR: MAGNESIUM IS REQUIRED FOR CATALYSIS AND FOR STABILIZING
                                                                                                                                                                                                                                                                                                                                   Glycolysis;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   (MSE)
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           275:427-433(1991).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          1PDY.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Res. 18:1893-1893(1990).
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                                                                                                                                                                                                                                                                                                                                Magnesium;
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                                                                                                 MW;
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BY SIMILARITY.

MAGNESIUM (BY SIMILARITY).

MAGNESIUM (BY SIMILARITY).

MAGNESIUM (BY SIMILARITY).

V -> A (IN REF. 3).

V -> N (IN REF. 1 AND 2).

K -> N (IN REF. 1 AND 2).
         Score 65;
                                                                                                                                                                                                                                                                                                                                      Multigene family.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         for muscle-specific enolase
               В
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         Length 433
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В Qγ

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RESULT
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Matches
                                                                                        EMBL;
                                                                                                                            entities requires a license agreement (S or send an email to license@isb-sib.ch).
                                                                                                                                                                                                          This
                                                                                                                                                                                                                                                                                                                                                                        developmental expression.";
Proc. Natl. Acad. Sci. U.S.A. 86:4445-4449(198
-!- CATALYTIC ACTIVITY: 2-PHOSPHO-D-GLYCERATE
              HSSP;
                                                                            EMBL;
                                                                                                       EMBL;
                                                                                                                                                                                 the
                                                                                                                                                                                                                                                                                                                                                                                                                                                                  SEQUENCE OF 58-433 FROM N.A.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Peterson C.A., Cho M., Rastinejad I "Beta-enolase is a marker of human differentiation.";
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         STRAIN=BALB/C; TISSUE=Liver;
Lamande N., Brosset S., Keller A.,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           01-MAY-1991 (Rel. 18, Created)
01-AUG-1992 (Rel. 23, Last sequence update)
15-UUL-1999 (Rel. 38, Last annotation update)
BETA ENOLASE (EC 4.2.1.11) (2-PHOSPHO-D-GLYCERATE HYDRO-LYASE)
(SKELETAL MUSCLE ENOLASE).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      MOUSE
                                                                                                                                                                                                                                                                                                                                                                                                         Legault-Demare L., Lazar M.;
Murine muscle-specific enolase: cDNA cloning, sequence,
                                                                                                                                                                                                                                                                                                                                                                                                                                      Lamande N., Mazo A.M., Lucas M., Montarras D.,
                                                                                                                                                                                                                                                                                                                                                                                                                                                   MEDLINE-89282789; PubMed-2734297;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       SEQUENCE FROM N.A.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Submitted
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               P21550;
01-MAY-1991
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            MEDLINE=92290133; PubMed=1339335;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     SEQUENCE FROM N.A.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Mus musculus (Mouse).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   ENO3 OR ENO-3
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               NCBI_TaxID=10090;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Eukaryota; Metazoa;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         ENOB_MOUSE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         383
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                                                                                                                                                                                                                           SUBCELLULAR LOCATION: CYTOPLASMIC.
TISSUE SPECIFICITY: THREE CLASSES OF ENOLASE ISOENZYMES HAVE ITSUE SPECIFICITY: THREE CLASSES. ISOENZYME ALPHA IS PRESENT I MOST TISSUES, BETA IS LOCALIZED IN MUSCLE TISSUE, AND GAMMA I FOUND ONLY IN NERVOUS TISSUE.
SIMILARITY: BELONGS TO THE ENOLASE FAMILY.
                         A33921;
S29675;
                                                                                                                                                    European Bioinformatics Institute. The by non-profit institutions as long filed and this statement is not removed.
                                                                                                                                                                                                                                                                                                                                                 COFACTOR: MAGNESIUM IS REQUIRED FOR CATALYSIS
                                                                                                                                                                                                                                                                                                            PATHWAY: GLYCOLYSIS. SUBUNIT: HOMODIMER.
                                                                                                                                                                                                                                                                                                                                       THE DIMER.
                                                    S17109; NOMSB
                                                                                                                                                                                        SWISS-PROT entry is copyright. It is produced through a collaboration en the Swiss Institute of Bioinformatics and the EMBL outstation -
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Biol. 151:626-629(1992).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        LVVGLCTGQIKTGAPC 398
                                                            X61600; CAA43797.1; -. X62667; CAA44540.1; -. M20745; AAA37554.1; -. X57747; CAA40913.1; -.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Similarity
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                         A33921.
S29675.
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P21550; MOUSE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         STANDARD;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Rodentia;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Chordata;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 6
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Rastinejad F., Blau H.M.;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Keller A., Lucas M., I the EMBL/GenBank/DDBJ
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                                                                                                                                                                                                                                                                                                                                                                                      86:4445-4449(1989)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Craniata; Vertebrata; Euteleostomi; Sciurognathi; Muridae; Murinae; Mus
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         PRT;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  myoblast heterogeneity prior
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        433
                                                                                                                                        (See http://www.isb-sib.ch/announce/
                                                                                                                                                                There are no rest
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        AA
                                                                                                                                                  Usage
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                                                                                                                                                                            he EMBL outstation restrictions on it
                                                                                                                                                                                                                                                                                                                                                                                                                                       С.,
                                                                                                                                                                                                                                                                                                                                               FOR STABILIZING
                                                                                                                                                                                                                                                                                                                                                                                                                                       Gros
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Best Local
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Zheng S.-X.;
"The cDNA cloning of rabbit muscle-specific enolase gene, site directed mutagenesis (B417L) of the gene, expression of the wild-typ and mutant genes in Escherichia coli.";
Thesis (1995), Concordia University, Montreal / Quebec, Canada.
-i- CATALYTIC ACTIVITY: 2-PHOSPHO-D-GLYCERATE = PHOSPHOENOLPYRUVATE
This SWISS-PROT entry is copyright. It is produced through a collaboration between the Swiss Institute of Bioinformatics and the EMBL outstation - the European Bioinformatics Institute. There are no restrictions on its use by non-profit institutions as long as its content is in no way modified and this statement is not removed. Usage by and for commercial entities requires a license agreement (See http://www.isb-sib.ch/announce/or send an email to license@isb-sib.ch).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         ENOB_RABIT STANDARD; PRT; 433 AA. P25704; Q9NON6; 01-MAY-1992 (Rel. 22, Created) 20-AUG-2001 (Rel. 40, Last sequence update) 20-AUG-2001 (Rel. 40, Last annotation update) BETA ENOLASE (EC 4.2.1.11) (2-PHOSPHO-D-GLYCERATE (SKELETAL MUSCLE ENOLASE).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        SEQUENCE FROM N.A.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         "The primary structure of rabbit muscle J. Protein Chem. 9:427-432(1990).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  chin c.c.Q.;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         MEDLINE=91113295; PubMed=2275753;
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ProDom; PD000902; Enolase; 1.
PROSITE; PS00164; ENOLASE; 1.
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Pfam; PF00113; enolase; 1.
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SUBGURIT: HOMODIMER.
SUBGULULAR LOCATION: CYTOPLASMIC.
SUBCELLULAR LOCATION: CYTOPLASMIC.
TISSUE SPECIFICITY: THREE CLASSES OF ENOLASE ISOENZYMES HAVE BEEN
TISSUE SPECIFICITY: THREE CLASSES OF ENOLASE ISOENZYMES HAVE BEEN
IDENTIFIED IN MAMMALIAN TISSUES. ISOENZYME ALPHA IS PRESENT IN
IDENTIFIED IN MAMMALIAN TISSUES. ISOENZYME ALPHA IS PRESENT IN
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13; Conser
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Metazoa; Chordata; Craniata;
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AG -> NA (IN REF. 3).
B318B763382D3FA8 CRC64;
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ProDom;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       01-APR-1990 (Rel. 14, Created)
01-APR-1990 (Rel. 14, Last septence update)
15-JUL-1998 (Rel. 36, Last annotation update)
BETA ENOLASE (EC 4.2.1.11) (2-PHOSPHO-D-GLYCERATE HYDRO-LYASE)
(SKELETAL MUSCLE ENOLASE).
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Mammalia; Eutheria;
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                                                                                                                                                                                                                                                                                                                           MEDLINE-91099531; PubMed-2269373;
Sakimura K., Kushiya E., Ohshima-Ichimura Y., Mitsui
                                                                                                                                                                                                                                                                                                                                                                   SEQUENCE OF 1-27 FROM N.A.
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MEDLINE-89121113; PubMed-2914621;
Witchi H., Takayama Y.,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           SEQUENCE FROM N.A.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Rattus norvegicus (Rat).
                                                                                                                                                                                                                                               "Structure and expression of rat muscle-specific FEBS Lett. 277:78-82(1990).
-i- CATALYTIC ACTIVITY: 2-PHOSPHO-D-GLYCERATE = F
                                                                                                                                                                                                                                                                                                             rakahashi Y.;
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                                 MOST TISSUES, BETA IS LOCALIZED IN MUSCLE FOUND ONLY IN NERVOUS TISSUE.
SIMILARITY: BELONGS TO THE ENOLASE FAMILY.
                                                                                         PATHWAY: GLYCOLYSIS.
SUBUNIT: HOWODIMER.
SUBCELLULAR LOCATION: CYTOPLASMIC.
TISSUE SPECIFICITY: THREE CLASSES OF ENOLASE ISOI
IDENTIFIED IN MAMMALIAN TISSUES. ISOENZYME ALPHA
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A37210; A37210.
; P56252; 1PDY.
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SWISS-PROT
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Lett. 242:425-430(1989).
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Sciurognathi;
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thi; Muridae; Murinae; Rat
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                                                                                             ISOENZYMES
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through
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Best Local 9
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     01-MAR-1989 (Rel. 10, Created)
01-MAR-1989 (Rel. 10, Last sequence update)
20-AUG-2001 (Rel. 40, Last annotation update)
GAMMA ENOLASE (EC 4.2.1.11) (2-PHOSPHO-D-GLYCERATE HYDRO-LYASE)
(NEURAL ENOLASE) (NSE).
                                                                                                                                                                                                                                                                                                                               "Complete amino acid sequence of the r of enclase (NSE) from human brain and non-neuronal alpha form (NNE)."
Eur. J. Biochem. 178:413-417(1988).
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INIT_MET
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"Human gamma enolase: isolation of a normal and tumor tissues of human ori J. Neurosci. Res. 19:450-456(1988).
                                                                                                                                                                                                              MEDLINE-90006764; PubMed-2792767;
MEDLINE-90006764; PubMed-2792767;
Harba G., Barbleri G., Giallongo A.,
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                                                           van Obberghen E.,
Lazzarini R.A.;
                                                                                                    MEDLINE=88259288;
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MEDLINE-89091176;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                              SEQUENCE FROM
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Mammalia; Eutheria; Primates;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Homo sapiens (Human).
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13; Conser
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PD000902; Enolase;
PS00164; ENOLASE
                                                                                                                                            FROM
                                                                                                                                                                                                                                                                                                                                                                                         S.M., Dunbar B., Fothergill J., Hinks L., Day
e amino acid sequence of the neurone-specific
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ENOLASE;
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                                                                                   Kamholz
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  CONFLICT
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    use by non-profit institutions as long modified and this statement is not removed.
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Day I.N.M., Allsopp M.T.E.P., Moore D.C.M., Thompson F
"Sequence conservation in the 3'-untranslated regions specific enolase, lymphokine and protooncogene mRNAs."
FEBS Lett. 222:139-143(1987).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Ansari Lari M.A., Muzny D.M., Lu J., Spanos S., Malley T., Gibbs R.A.; "A gene-rich cluster between the CD4 genes at human chromosome 12p13.";
                                                                                                                                                                                                                                                                            Pfam; PF00113; enolase; 1.
PRINTS; PR00148; ENOLASE.
ProDom; PD000902; Enolase;
PROSITE; PS00164; ENOLASE;
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MEDLINE=91257823; PubMed=2045099;
Oliva D., Cali L., Feo S., Giallo
                                                                                      VARIANT
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   PATHWAY: GLYCOLYSIS.
SUBUNIT: HOMODIMER.
SUBUNIT: HOMODIMER.
SUBCELLULAR LOCATION: CYTOPLASMIC.
SUBCELLULAR LOCATION: CYTOPLASMIC.
TISSUE SPECIFICITY: THREE CLASSES OF ENOLASE ISOENZYMES HAVE IDENTIFIED IN MAMMALIAN TISSUES. ISOENZYME ALPHA IS PRESENT I MOST TISSUES, BETA IS LOCALIZED IN MUSCLE TISSUE, AND GAMMA I FOUND ONLY IN NERVOUS TISSUE.
FOUND ONLY IN NERVOUS TO THE ENOLASE FAMILY.
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S02077; S02077.
S02616; S02616.
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/FTId=VAR_002355.
Q -> E (IN REF. 2, 4
AK -> GC (IN REF. 3)
E -> N (IN REF. 3).
                                                                                                                                MAGNESIUM
MAGNESIUM
P -> A.
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T -> A
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RESULT 15
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                                                                                                                                                                                                                                                                                                                                                                                                                                           "Nucleotide sequences of cDNAs alpha and mouse brain.";
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Eukaryota; Metazoa;
Mammalia; Eutheria;
                                                                                                     EMBL; X52380;
                                                                                                                                                                                               This
                                                                                                                                                                                                                                                                                                                                                                         Gibbs R.A.;
                                                                                                                                                                                                                                                                                                                                                                                  Ansari-Lari M.A., Oel
Lu J., Gorrell J.H.,
                    PRINTS;
                                                       MGD; MGI:95394; Eno2.
                                                                                                                                                    modified
                                                                                                                                                             use
                                                                                                                                                                           the
                                                                                                                                                                                                                                                                                                                                                            Submitted (AUG-1997) to
                                                                                                                                                                                                                                                                                                                                                                                                          SEQUENCE FROM
                                                                                                                                                                                                                                                                                                                                                                                                                                  Nucleic Acids
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        MEDLINE=90301487; PubMed=2362815;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 SEQUENCE FROM
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      NCBI_TaxID=10090;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ENO2 OR ENO-2
            ProDom; PD000902;
                                           InterPro; IPR000941; Enolase
                                                                     HSSP;
                                                                                                                           or send an email to license@isb-sib.ch).
                                                                                                                                                                                                                                                                                                                           -!- COFACTOR: MAGNESIUM
                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Kaghad M.,
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                                                                                                                                                                                                                    FOUND ONLY IN NERVOUS TISSUE.
SIMILARITY: BELONGS TO THE ENOLASE FAMILY.
                                                                                                                                                                                                                                          SUBCELLULAR LOCATION: CYTOPLASMIC.
TISSUE SPECIFICITY: THREE CLASSES OF ENOLASE ISOENZYMES HAVE BEEN IDENTIFIED IN MANMALIAN TISSUES. ISOENZYME ALPHA IS PRESENT IN MOST TISSUES, BETA IS LOCALIZED IN MUSCLE TISSUE, AND GAMMA IS
                                                                ; AC002397; AAC36002.1; -.
$10247; $10247.
; P56252; 1PDY.
                                                                                                                                                                       European Bioinformatics Institute.
                                                                                                                                                                                                                                                                                                    PATHWAY: GLYCOLYSIS.
                                                                                                                                                                                                                                                                                                                                                CATALYTIC ACTIVITY:
                                                                                                                                                                                                                                                                                          SUBUNIT: HOMODIMER.
                                                                                                                                                                                                                                                                                                                THE DIMER.
                                                                                                                                                                                  SWISS-PROT entry is copyright. It is produced through a collaboration sen the Swiss Institute of Bioinformatics and the EMBL outstation -
                    PF00113; enolase; 1
S; PR00148; ENOLASE.
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13; Conser
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           ENOLASE) (NSE).
                                                                                                                                     and this statement is not removed. requires a license agreement (See
PS00164;
                                                                                                                                                             non-profit institutions as long
                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Caput D.;
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433 AA;
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H., Chinault A.C., Belmont
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47154 MW;
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Rodentia;
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2-PHOSPHO-D-GLYCERATE
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KW Lyase; Glycolysis; Magnesium; Multigene family.

FT INIT_MET 0 0

FT ACT_SITE 157 157 BY SIMILARITY.

FT METAL 244 244 MAGNESIUM (BY SIMILARITY).

FT METAL 292 292 MAGNESIUM (BY SIMILARITY).

FT METAL 317 317 MAGNESIUM (BY SIMILARITY).

SQ SEQUENCE 433 AA; 47165 MW; B7281132E637D43E CRC64;

Query Match 72.2%; Score 65; DB 1; Length 433; Best Local Similarity 81.2%; Pred. No. 0.0043; Matches 13; Conservative 0; Mismatches 3; Indels 0; Gaps 0;

QY 1 LVVGLCTCQIKTGAPC 16

Db 383 LVVGLCTGQIKTGAPC 398

Search completed: May 8, 2002, 11:46:32

Search completed: May 8, 2002, 11:46:32
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Copyright (c) 1993 - 2000 Compugen Ltd
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Result No.

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RESULT 2 150026 phosphopyruva N;Alternate; C;Species: Al C;Date: 21-Fe C;Accession: A;Title: Mole A;Reference A;Accession: A;Accession: A;Accession: A;Accession: A;Accession: A;Accession: A;Accession: A;Accession: A;Accession: A;Cocssion: A;Cocss	Query Matc Best Local Matches Qy 1 LV Db 285 LV	itle:	SULT 9579 9579 myc pro Species Date: 0 Accessi	30 31 31 33 33 33 34 34 44 44 44 44 44 44 44 44
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American alligator 997 #text_ 94 Hrds:	2; Length 6; 0; Ind	uman c-myc PIDN:AAA356	1992 #tex	
ligator ange 22- nslatior	335; els 0;	promoter-bind: 98.1; PID:g180	22-	hypothetical flagellar bio ferredoxin [2 60s ribosomal proferredoxin [2 7-cell recept cytochrome o hypothetical hypothetical hypothetical hypothetical hybothetical hybothetical hybothetical hybothetical hypothetical
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C;Superfamily: enclase
C;Keywords: acetylated amino end; carbon-oxygen lyase; gluconeogenesis;
F;1/Modified site: acetylated amino end (Ser) #status experimental
F;39/Binding site: magnesium 2 (Ser) #status predicted
F;209/Active site: Glu #status predicted
F;244,292,317/Binding site: magnesium 1 (Asp, Glu, Asp) #status predicte
                                                                                      C; Superfamily: enolase C; Keywords: acetylated amino end; carbon-oxygen lyase; hydro-lyase F;1/Modified sita: acetylated amino end (Ala) #status experimental
                                                                                                                                                                                  A;Reference number: A37210; MUID:91113295
A;Accession: A37210
A;Status: preliminary
                                                                                                                                                A; Molecule type: protein A; Residues: 1-433 <CHI>
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A;Accession: A60809
A;Molecule type: protein
A;Residues: 1-9 <GIB>
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N;Alternate names: enolase beta
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Anal. Biochem. 169, 217-226, 1988
A;Title: Structural elucidation of N-terminal
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                R;Russell, G.A.; Dunbar, B.; Fothergill-Gilmore, Biochem. J. 236, 115-126, 1986
A;Title: The complete amino acid equence of chi
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N;Alternate names: enclase, skeletal muscle
C;Species: Gallus gallus (chicken)
C;Date: 22-Jul-1987 #seguence_revision 22-Jul-1987 #text_ch
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     Matches
                      Query Match
Best Local :
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                                                                                                                                                                                                                                                                                                            Species: Oryctolagus cuniculus (domestic rabbit)
Pate: 30-Dec-1991 #sequence_revision 30-Dec-1991 #text_change 05-Aug-1994
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                                                                                                                                                                                                                                                        Protein Chem. 9, 427-432, 1990
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 acid dequence of chicken skeletal-muscle MUID:87075592
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               %; Score 7; DB 2
%; Pred. No. 3.2
0; Mismatches
                  Score 7; I
; Pred. No.
   0;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             0;
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Pred. No.
                                                                                                                                                                                                                                        abbit muscle enolase
   Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Mismatches
                    DB 2;
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   0;
                                   Length 433;
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Gaps
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                                                                     A; Gene: GDB: ENO2
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A; Introns: 29/1; 61/
C; Complex: homodimer
C; Function:
                                             A;Cross-references: GDB:119872; OMIM:131360
A;Map position: 12p13-12p13
A;Introns: 29/1; 61/1; 80/3; 104/1; 148/3; 223/1; 289/1; 356/2; 392/2; 412/2
                                                                                                                                                             C;Comment: Enolase occurs with at least
C;Comment: Thr-191 may be important for
C;Genetics:
                                                                                                                                                                                                                                          A; Molecule type: protein A; Residues: 156-173 <HAR>
                                                                                                                                                                                                                                                                                                  A; Reference number: A; Accession: S38303
                                                                                                                                                                                                                                                                                                                                                                                                       R:Harrington, C.R.; Quinn, G.B.; Hurt, J.; Biochim. Biophys. Acta 1158, 120-128, 1993
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 A;Accession: S02077
A;Molecule type: mRNA
A;Moles: 2-3, (0',5-239, 'M',241-434 <MCA>
A;Cross-references: EMBL:X13120; NID:g31145; PIDN:CAA31512.1; PID:g930063
A;Note: part of this sequence was confirmed by protein sequencing
A;Note: 264-Ala and 395-Ala were also found
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          C:Species: Homo sapiens (man)
C;Date: 31-Mar-1990 #sequence.revision 31-Mar-1990 #text_change 18-Jun-1999
C:Accession: JU0060; S16163; S02077; I56569; S02616; S38303
R;Oliva, D.; Barba, G.; Barbieri, G.; Giallongo, A.; Feo, S.
Gene 79, 355-360, 1989
A;Title: Cloning, expression and sequence homologies of cDNA for human gamma A;Fitle: Cloning.repression and sequence homologies of cDNA for human gamma A;Reference number: JU0060; MUID:90006764
A;Accession: JU0060
                                                                                                                                                                                                                                                                                                                                                                                 A; Title: Characterisation
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        J. Neurosci. Res. 19, 450
A:Title: Human gamma enol
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Genomics 10, 157-165, 1991
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         A; Molecule type: mRNA
A; Besidues: 425-434 <DAY>
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  A;Reference number: I56569; MUID:88259288
A;Accession: I56569
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       R;McAleese, S.M.; Dunbar, B.; Fother
Eur. J. Biochem. 178, 413-417, 1988
A:Title: Complete amino-acid sequence
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               A; Status: not compared with conceptual translation
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           A; Accession: S02616
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A; Residues: 'GC', 29-126, 'N', 128-434 <VAN>
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      A; Status: preliminary; translated from GB/EMBL/DDBJ
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N;Alternate names: enolase gamma; neuron-specific enolase
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Cross-references:
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Y, I.N.M.; Allsopp, M.T.E.P.
Lett. 222, 139-143, 1987
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s02616; MUID:88005129
                                                                                                                                                                                                                                                                                                                           S38303; MUID:94002176
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     of the human gene encoding neuron-specific enolase MUID:91257823
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              NID:g182117; PIDN:AAA52388.1; Moore, D.C.M.; Thompson, R
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Bishop, J.G.
                                                                                                                                                                                       three isoforms (alpha, the enhanced tolerance
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to chloride ions
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C;Species: Mus musculus (house mouse)
C;Date: 31-Mar-1992 #sequence_revision 31-Mar-1992 #text_change
C;Accession: S17109; S18036; S29675; A33921
R;Lamande, N.; Brosset, S.; Keller, A.; Lucas, M.; Lazar, M.
submitted to the EMBL Data Library, September 1991
A;Reference number: S17109
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F;40/Binding site: magnesium 2 (Ser) *status pred: F;210,343/Active site: Glu, Lys *status predicted F;245,293,318/Binding site: magnesium 1 (Asp, Glu
                                                                                A;Pathway: gluconeogenesis; glycolysis
C;Superfamily: enolase
C;Keywords: carbon-carbon lyase; carbon-oxygen lyase; dimer; gluconeogenesis;
F;40/Binding site: magnesium 2 (Ser) #status predicted
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NOMSB
                                                                                                                                                                                                                                                                                                                                                                               A; Experimental source: skeletal muscle C; Genetics:
                                                                                                                                                                                                                                                                                                                                                                                                                                              A; Molecule type: mRNA
A; Residues: 59-233, 'NA', 236-434 <LA2>
A; Cross-references: GB:M20745; NID:g193029; PIDN:AAA37554.1; PID:g387144
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 A; Cross references: EMBL:X57747, NID-g50846; PIDN:CAA40913.1; R; Lamande, N.; Mazo, A.M.; Lucas, M.; Montarras, D.; Pinset, C Proc. Natl. Acad. Sci. U.S.A. 86, 4445-4449, 1989
A; Title: Murine muscle specific enormae, CDNA cloping, sequence, R; Reference number: A33921; MUID:89282789
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A; Cross references:
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A; Accession: S29675
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      A;Cross-references: EMBL:X61600; NID:g50848; PIDN:CAA43797.1; R;Peterson, C.A.; Cho, M.; Rastinejad, F.; Blau, H.M. submitted to the EMBL Data Library, October 1991
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A; Residues: 1-434 <LAM>
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N;Alternate names: enolase beta
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                                                                                                                                                                                                                                                                                                                                         A; Introns: 29/1; 61/1; 80/3; 104/1; 148/3; 223/1; 289/1; 356/2; 392/3; 412/2
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nes 7; Conserv
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100.0%;
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Pred. No.
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                Asp) #status predicted
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Query Match

43.88;

Score

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Length 434;

Query Match

Best Local Similarity

43.8%; 100.0%;

Score Pred.

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Length 434

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Proc. Natl. Acad. Sci. U.S.A. 82, 7453-7457, 1985
A;Title: Molecular cloning and the nucleotide sequence of cDNA 1
A;Reference number: A24742; MUID:86042683
A;Molecular turn.
                                                                                                    A;Cross-references: GB:M11931; NID:g204041; PIDN:AAA41119 R;Sakimura, K.; Kushiya, E.; Takahashi, Y.; Suzuki, Y. Gene 60, 103-113, 1987 A;Title: The structure and expression of neuron-specific A;Reference number: PQ0006; MUID:88152493 A;Accession: PQ0006
                                                                                                                                                                                                                                                                                                                                                                            phosphopyruvate hydratase (EC 4.2.1.11) gamma - rat N;Alternate names: 2-phospho-glycerate dehydratase; enolase gamma; neuronal C;Species: Rattus norvegicus (Norway rat) C;Date: 25-Oct-1987 #sequence_revision 25-Oct-1987 #text_change 22-Jun-1999 C;Accession: A24742; PQ0006
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         R;Segil, N.; Shrutkowski, A.;
Biochem. J. 251, 31-39, 1988
Biochem. J. 251, soenzymes J.
A;Title: Enolase isoenzymes J
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          C;Keywords: carbon-oxygen lyase; dimer; gluconeogenesis; F;40/Binding site: magnesium 2 (Ser) #status predicted F;210,343/Active site: Glu, Lys #status predicted F;245,293,318/Binding site: magnesium 1 (Asp, Glu, Asp)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                phosphopyruvate hydratase (EC 4.2.1.11) ENO1 - African clawed frog N;Alternate names: enolase ENO1 C;Species: Xenopus laevis (African clawed frog) C;Date: 31-Mar-1991 #sequence_revision 31-Mar-1991 #text_change 18-Jun-1999
  C; Keywords:
                     A;Cross-references: GB:M22770;
C;Superfamily: enolase
                                                               A; Molecule type: DNA
A; Residues: 1-28 <SA2>
                                                                                                                                                                                                                               A; Molecule type: mRNA
A; Residues: 1-434 <SAK>
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A; Residues: 1-434 <SEG>
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lyase;
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                                         GB:M18742; NID:g205766;
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gluconeogenesis;
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0; Mismatches
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                                                                                                                                                                                        PIDN:AAA41119.1;
Suzuki, Y.
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glycolysis; hydro-lyase
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                                         PIDN:AAA41725.1; PID:g55448
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R;Kaghad, M.; Dumonty-X-;-Chalony-R.; Lelias, J.M.; Lamande, N.; Lucas, M.; Lazar, M.; Nucleic Acids Res. 18, 36387-1990.

A;Title: Nucleotide sequences of cDNAs alpha and gamma enolase mRNAs from mouse brain. A;Reference number; S10246; MUID:90301487

A;Accession: S10247
                                                                                                                                                                                                                            A;Molecule_type: mrNA
A;Residues: 1-434 <KAG>
A;Cross_references: EMBL:X52380; NID:g55494; PIDN:CAA36606.1;
                                                                                                                                                                                                                                                                                                                                                                                                   C;Species: Mus musculus (house mouse)
C;Date: 12-Feb-1993 #sequence_revision 12-Feb-1993 #text_change 22-Jun-1999
C;Accession: S10247
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S10247
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A:Status: preliminary
A:Molecule type: protein
A:Residues: 'X',60,'X',62-67,'X',69-71;'XX',100-109,'X',111-112,'X',114;'X',184-185,'X'
A:Experimental source: peritoneal macrophages
A:Note: sequence modified after extraction from NCBI backbone
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C;Date: 12-Feb-1993 #sequence_revision 12-Feb-1993 #text_change 22-Jun-1999
C;Accession: S10246;_A56781.
TXTKāghad, M.; Dumont, X.; Chalon, P.; Lelias, J.M.; Lamande, N.; Lucas, M.;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   A;Title: CholesteryLester loading of mouse peritoneal macrophages is associated with ch
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               A;Cross-references: EMBL:X52372; NID:955490; PIDN:CAA36605.1; R;BottallCo; L;A; Kendrick, N.C.; Keller, A.; Li, Y.; Tabas, Arterioscler. Thromb. 13, 264-275, 1993
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    C;Keywords: carbon-oxygen lyase; gluconeogenesis; glycolysis; hydro-lyase
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A; Residues: 1-434 < KAG>
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                                                                                       Conservative
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                                                                                                           100.0%;
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38, 1990
                                                                                                                                43.8%;
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                                                                                       0;
                                                                                                        Score 7; I
; Pred. No.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        0
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                                                                                       Mismatches
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  )Lelias, J.M.; Lamande, N.; Lucas, M.; Lazar,
                                                                                                        DB 2;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       DB 2;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  - mouse
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                                                                                   0
                                                                                                                            Length 434;
                                                                                                                                                                                                                                                                                                                                                                                                                                                               enolase
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Length 434;
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                                                                                                                                                                                                                                PID:g55495
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I.
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                                                                                   Gaps
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phosphopyruvate hydratase (EC 4.2.1.11) alpha - duck N;Alternate names: enolase alpha; tau-crystallin C;Species: Anas platyrhynchos (domestic duck) C;Date: 21-May-1990 #sequence_revision 21-May-1990 #Seccession: A32132
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       A;Molecule type: DNA
A;Molecule type: DNA
A;Residues: 1-434 <GIA>
A;Residues: 1-434 <GIA>
A;COSS-references: EMBL:X16288; NID:g31172; PIDN:CAA34360.1; PID:g1167843
A;Note: the nucleotide sequence was submitted to the EMBL Data Library, August 1989
A;Note: the nucleotide sequence, R; Croce, C.M.; Showe, L.C.
Froc. Natl. Acad. Sci. U.S.A. 83, R. Croce, C.M.; Showe, L.C.
Proc. Natl. Acad. Sci. U.S.A. 83, R. Croce, C.M.; Showe, L.C.
A;Title: Molecular cloning and nucleotide sequence of a full-length cDNA for human
A;Reference number: A29170; MUID:86313654
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            A;Description: catalyzes the reversible hydration of phosphoenolpyruvate to C;Superfamily: enclase C;Keywords: carbon-oxygen lyase; gluconeogenesis; glycolysis; hydro-lyase; F;2-434/Product: phosphopyruvate hydratase alpha *status predicted <MAT>
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  A; Map position: 1p36-1p36
A; Introns: 29/1; 61/1; 80/3; 104/1; 148/3; 223/1; 289/1;
C; Function:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           A;Cross-references: GB:M14328; NID:g182113; PIDN:AAA52387.1; PID:g182114 A;Note: the authors translated the codon AAG for residue 193 as His R;Walter, M.; Leidenberger, F.A.; Schweppe, K.W.; Berg, H.; Northemann, I submitted to the EMBL Data Library, February 1995
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        A; Cross-references: GDB:119871; OMIM:172430
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 A; Gene: GDB: ENO1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                C; Genetics:
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A; Residues: 170-182,'I',184,'R',186-190;245-252 <MIL>
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A;Title: Role of cell-surface lysines in plasminogen binding
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     A;Cross-references: EMBL:X84907; NID:g693932; PIDN:CAA59331.1; PID:g693933
A;Experimental source: endometrium carcinoma cell line HEC-1B
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        A; Molecule type: mRNA
A; Residues: 1-251, 'S', 253-434 <WAL>
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                A; Molecule type: mRNA
A; Residues: 1-434 <GI2>
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Eur. J. Biochem. 190, 567-573, 1990
A;Title: Structure of the human gene for alpha-enolase.
A;Reference number: S11696; MUID:90323004
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C;Date: 19-Nov-1988 #sequence_revision 19-Nov-1988 #text_change 20-Jun-2000
C;Date: 19-Nov-1988 #text_change 20-Jun-
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Best Local :
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mes 7; Conserv
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                                                   21-May-1990 #text_change 21-Jul-2000
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Length 434;
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Lietman,

T.; Williams,

L.A.; Stapel, S.O.;

de

Jong, W.W.; Horwitz,

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J. Cell Biol. 107, 2729-2736, 1988
A;Title: Tau-crystallin/alpha-enolase: one gene encodes both an enzyme and a lens struct
A;Reference number: A92750; MUID:89079778
A;Recession: A32132
A;Molecule type: mRNA
A;Residues: 1-434 <WIS>
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S02072
                                                                                                                                                                                                                                                                              C;Species: Homo sapiens (man)
C;Date: 22-Jan-1993 *sequence_revision 22-Jan-1993 *text_change 22-Jun-1999
C;Accession: S06756; S14759; S15933; S33330; S08685; S31650
R;Peshavaria, M.; Hinks, L.J.; Day, I.N.M.
Nucleic Acids Res. 17, 8862, 1989
A;Title: Structure of human muscle (beta) enclase mRNA and protein.deduced A;Reference number: S06756; MUID:90067857
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          A;Cross-references: EMBL:Y00979; NID:g57781; PIDN:CAA68788.1; PID:g57782 A;NOte: the sequence from Fig. 4 is inconsistent with that from Fig. 2 in C;Superfamily: enolase C;Keywords: carbon-oxygen lyase; gluconeogenesis; glycolysis; hydro-lyase
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 phosphopyruvate hydratase (EC 4.2.1.11) beta - rat
N;Alternate names: enolase beta; enolase, muscle-specific
C;Species: Rattus norvegicus (Norway rat)
C;Date: 01-bec-1989 #sequence_revision 01-bec-1989 #text_C;Accession_603972
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   A;Cross-references: GB:X14195; NID:g62455; PIDN:CAA32409.1; PID:g62456 C;Superfamily: enolase C;Keywords: carbon-oxygen lyase; gluconeogenesis; glycolysis; hydro-lyase
                                                                                                       A;Cross-references: EMBL:X16504; NID:g31169; PIDN:CAA34513.1; PID:g31170 R;Peshavaria, M.; Day, I.N.M. Biochem. J. 275, 427-433, 1991 A;Title: Molecular structure of the human muscle-specific enolase gene (A;Reference number: S14759; MUID:91222137
                                                                                                                                                                                                                                                                                                                                                                                                                                      phosphopyruvate hydratase (EC 4.2.1.11) beta - human
N.Alternate names: enolase beta; enolase, skeletal mu
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S06756
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                                                                A;Accession: S14759
A;Status: nucleic acid sequence
                                                                                                                                                                                                                       A; Molecule type: mRNA
A; Residues: 1-434 < PES>
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A; Residues: 1-434 <OHS>
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A;Residues: 1-434 < A;Cross-references:
                                         A; Molecule type:
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                                             Search completed:
Job time: 112 sec
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A; Molecule type: mRNA
A; Residues: 1-84,'A',86-161,'K',163-434 <CAL>
A; Residues: 1-84,'A',86-161,'K',163-434 <CAL>
A; Cross-references: EMBL:X51957; NID:g34788; PIDN:CAA36216.1; PID:g34789
A; Giallongo, A.; Venturella, S.; Oliva, D.; Barbieri, G.; Rubino, P.; Feceur. J. Biochem. 214, 367-374, 1993
A; Title: Structural features of the human gene for muscle-specific enolase A; Reference number: S33330; MUID:93292497
A; Accession: S33330
                                                                                                                                                                                       A; Experimental source: brain
C; Comment: This is a glycolytic enzyme and mul
rates for tyrosine phosphorylation in Rous sau
C; Superfamily: enclase
C; Keywords: carbon-oxygen lyase; hydro-lyase;
F; 44/Binding site: phosphate (Tyr) (covalent)
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A;Map position: 17pter-17p12
A;Introns: 29/1; 61/1; 80/3; 104/1; 148/3; 223/1;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              A; Title: Nucleotide sequence of a cDNA encoding A; Reference number: S15933; MUID:90245587 A; Accession: S15933
                                                                                                                                                                                                                                                                                                                                                                                       R;Tanaka, M.; Maeda, K.; Nakashima, K.
J. Biochem. 117, 554-559, 1995
A;Title: Chicken alpha-enolase but not beta-enolase has A;Reference number: JC4186; MUID:95355305
A;Accession: JC4186
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       phosphopyruvate hydratase (EC 4 2.1.11) alpha chain - chicken N;Alternate names: alpha-2-phospho-D-glycerate hydrolase; eno. C;Species: Gallus gallus (chicken) C;Date: 10-Sep-1995 #sequence_revision 27-Oct-1995 #text_chan
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C;Keywords: carbon-oxy
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       A; Residues: 1-161, 'K', 163-434 <GIA>
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A; Residues: 1-434 <TAN>
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Listing first 45 summaries
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Copyright (c) 1993 - 2000 Com
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/cgn2_6/ptodata/2/iaa/5B_COMB.pep:*
/cgn2_6/ptodata/2/iaa/6A_COMB.pep:*
/cgn2_6/ptodata/2/iaa/6B_COMB.pep:*
/cgn2_6/ptodata/2/iaa/pcTUS_COMB.pep:*
/cgn2_6/ptodata/2/iaa/backfiles1.pep:*
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687
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1 US-07-973-852-1

US-08-232-538-6

US-08-232-538-6

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US-08-232-538-6

US-08-8-43-839-1

US-08-8-43-839-1

US-08-8-43-839-1

US-08-96-164-14

US-08-90-111-5

US-08-90-111-5

US-08-90-1710-5

US-08-90-1710-15

US-08-90-185-432-17

US-08-98-98-32-384-20

US-08-98-98-32-384-20

US-08-98-98-32-384-20

US-08-98-98-32-384-20

US-08-98-98-32-384-20
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28.735 Million cell updates/sec
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	ALIGNMENTS				
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2, Appl	2 US-08-650-000-2	461	42.2	38	44
2, Appl				38	43
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Sequence 65, Appl	US-08-248-			38	40
Patent No. 5177197		1394		38.5	39
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Sequence 2, Appli	4 US-09-177-249-2			39	30
Patent No. 5164481	6 5164481-1		ω	39	29
Sequence 1, Appli	1 US-07-927-071-1			39	28

FILING DATE:
CLASSIFICATION: 530
PRIOR APPLICATION DATA:
APPLICATION UNMBER: US 07/631,321
FILING DATE: 20-DEC-1990
PRIOR APPLICATION DUMBER: JP 332884/1989
FILING DATE: 25-DEC-1989
PRIOR APPLICATION NUMBER: JP 75600/1990
PRIOR APPLICATION NUMBER: JP 75600/1990
PRIOR APPLICATION NUMBER: JP 194782/1990
PRIOR APPLICATION NO. 5376640man F.
REGISTRATION NUMBER: 24,618
REFERENCE/DOCKET NUMBER: 1327-014-0 DITELECOMMUNICATION INFORMATION:
TELEPHONE: (703)486-2347
TELEPHONE: (703)486-2347 COMPUTER READABLE FORM:
MEDIUM TYPE: Floppy disk
COMPUTER: IBM PC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
SOFTWARE: Patentin Release #1.0,
CURRENT APPLICATION DATA:
APPLICATION NUMBER: US/07/973,852 APPLICANT: Okuda, Hiromichi
TITLE OF INVENTION: LIPOLYTIC
NUMBER OF SEQUENCES: 7 CORRESPONDENCE ADDRESS STATE: V COUNTRY: STREET: 1755 Je CITY: Arlington ADDRESSEE: ZIP: 22202 Virginia Y: U.S.A. 1755 Jefferson Davis Highway, Fourth Floor Tsujita, Takahiro Okuda, Hiromichi Maeda, Taturo OBLON, SPIVAK, MCCLELLAND, Release #1.0, US/07/973,852 ENZYME INHIBITORS Version DIV MAIER & NEUSTADT,

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US-07-950-773-1
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                                                            Query Match
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                                                                                                                                                                                          TELEFAX: (703)486-2347
TELEX: 248855 OPAT UR
INFORMATION FOR SEQ ID NO:
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         INFORMATION FOR SEQ ID NO: SEQUENCE CHARACTERISTICS: LENGTH: 45 amino acids
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         STREET: 1/55
CITY: Arlington
STATE: Virginia
*TP: 22202
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APPLICANT:
                                                                                                                     TOPOLOGY: 11
MOLECULE TYPE:
                                                                                                                                                                            SEQUENCE CHARACTERISTICS:
                                                                                                                                                                                                                                     TELECOMMUNICATION INFORMATION:
TELEPHONE: (703)521-4500
                                                                                                                                                                                                                                                                            ATTORNEY/AGENT INFORMATION:
NAME: Oblon, No. 5411956man F.
REGISTRATION NUMBER: 24,618
                                                                                                                                                                                                                                                                                                                                                                                                              OPERATING SYSTEM: PC-DOS/MS-DOS
SOFTWARE: PatentIn Release #1.0, Version
CURRENT APPLICATION DATA:
                                                                                                                                                                                                                                                                                                                                          PRIOR APPLICATION DATA:
APPLICATION NUMBER: U
                                                                                                                                                                                                                                                                                                                                                                                                                                                                           COMPUTER READABLE FORM: MEDIUM TYPE: Floppy
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             CORRESPONDENCE ADDRESS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          NUMBER OF SEQUENCES:
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 MOLECULE TYPE: protein
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      APPLICANT:
                             Local Similarity
nes 7; Conserv
                                                                                                                                                                                                                                                                    REFERENCE/DOCKET NUMBER:
                                                                                                                                                                                                                                                                                                                             APPLICATION NUMBER: US/07/631,321 FILING DATE: 20-DEC-1990
                                                                                                                                                                                                                                                                                                                                                                                     APPLICATION NUMBER: UFILING DATE: 19920924
                                                                                                                                                                                                                                                                                                                                                                         CLASSIFICATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                               COMPUTER:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ADDRESSEE: OBLON, SPIVAK, McCLELLAND, MAIER & ADDRESSEE: NEUSTADT, P.C.
1 LVVGLCTCQIKTGPAC 16
                                                                                                                                                                LENGTH:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   24 LCAGVCRCKISSGLSC 39
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                                                                                                                                               AMINO ACID
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                                                                                                                                                             45 amino acids
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              1755 Jefferson Davis Highway, Fourth Floor
                              Conservative
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Okuda, Hiromichi
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Motoi, Hirofumi
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Kodama,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Miyazaki, Toshiyuki
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Maeda, Taturo
                                                                                                                                   linear
                                                                                                                                                                                                                                                                                                                                                                                                                                              E: Floppy disk
IBM PC compatible
SYSTEM: PC-DOS/MS-DOS
                                                                                                                     protein
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43.8%;
                                         51.1%;
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                                                                                                                                                                                                                                                                    1327-003-0
                                           Score 46;
Pred. No.
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Pred. No. 3;
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                                                          DB 1;
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                                                                                                                                                                                                                                                                                                                                                                                                                                  #1.25
                                                         Length 45
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Best Local Similarity
"-+ hes 6; Conserve
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                                                                                                                                                                                                              US-08-786-164-12
                                                                                                                                                                                                                                RESULT
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                                                                                                                                                              Sequence 12, Application US/08786164 Patent No. 5861484 GENERAL INFORMATION:
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Sequence
                                                                          APPLICANT: THOMAS, KE
APPLICANT: KENDALL, R
TITLE OF INVENTION: I
TITLE OF INVENTION: C
NUMBER OF SEQUENCES:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            TELEFAX: (908) 594-472
INFORMATION FOR SEQ ID NO:
SEQUENCE CHARACTERISTICS:
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                        CORRESPONDENCE ADDRESS:
ADDRESSEE: Merck & Co., Inc.
STREET: P.O. Box 2000, 126 E. Lincoln Ave
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         ATTORNEY/AGENT INFORMATION:
NAME: Wallen, John W.III
REGISTRATION NUMBER: 35,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          COMPUTER: IBM PC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
SOFTWARE: Patentin Re-lease #1.0, Version #1.25
CURRENT APPLICATION DATA:
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MEDIUM TYPE: Floppy disk
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      APPLICANT: Thomas, Kenneth A.
APPLICANT: Kendall, Richard L.
TITLE OF INVENTION: INHIBITOR OF VASCULAR ENDOTHELIAL CELL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            CORRESPONDENCE ADDRESS:
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                                                                                                                                                                                                                                                                                281 GLYTCRVRSGPS 292
STATE:
             CITY: Rahway
                                                                                                                                                                                                                                                                                                                                                                                                                                                                            STRANDEDNESS:
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                                                                                                                                                                                                                                                                                                             4 GLCTCQIKTGPA 15
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o. 5712380
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P.O. Box 2000 126 E Lincoln Avenue
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           661 amino acids
                                                                                                                             THOMAS, KENNETH A. KENDALL, RICHARD L
                                                                                                                                                                                                                                                                                                                                                Conservative
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594-4720
NO: 12:
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50.0%;
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                                                                                              CELL GROWTH FACTOR
                                                                                                            INHIBITOR OF VASCULAR ENDOTHELIAL
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COMPUTER READABLE FORM:

COUNTRY: USA ZIP: 07065-0900

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CURRENT APPLICATION DATA:

Microsoft Word 6.0

US/08/786,164

DOS

OPERATING SYSTEM:

IBM Compatible

Diskette

MEDIUM TYPE:

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RESULT 5
US-08-232-538-6
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Best Local Similarity 50.0
Conservative
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              TELEFAX: (908) 594-4720 INFORMATION FOR SEQ ID NO: (
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           GENERAL INFORMATION:
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                                                                                                                                                                                                             COMPUTER READABLE FORM:
MEDIUM TYPE: Floppy disk
COMPUTER: IBM PC compatible
COMPUTER: PM PC COMPANIAN
COMPUTER: PM PC COMPANIAN
COMPUTER: PATENT POS/MS-DOS
SOFTWARE: PATENTIA Release #1.0, Version #1.25
CURRENT APPLICATION DATA:
                                            REGISTRATION NUMBER: 35,403
REFERENCE/DOCKET NUMBER: 18888IA
TELECOMMUNICATION INFORMATION:
TELECHONE: (908) 594-3905
                                                                                                                                                                                                                                                                                                                                                                                                                                 NUMBER OF SEQUENCES: 1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                    APPLICANT: Thomas, Kenneth A.
APPLICANT: Kendall, Richard L.
TITLE OF INVENTION: INHIBITOR OF VASCULAR ENDOTHELIAL CELL
TITLE OF INVENTION: GROWTH FACTOR
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              REFERENCE/DOCKET NUMBER: 18888DA TELECOMMUNICATION INFORMATION: TELEPHONE: 908-594-3905
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                                                                                                                                          ATTORNEY/AGENT INFORMATION:
SEQUENCE CHARACTERISTICS:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       281 GLYTCRVRSGPS 292
                                                                                                      NAME: Wallen, John W.III REGISTRATION NUMBER: 35,
                                                                                                                                                                                                                                                                                                                        COUNTRY: USA
ZIP: 07065-0907
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TOPOLOGY: lir
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REGISTRATION NUMBER:
                                                                                                                                                               CLASSIFICATION:
                                                                                                                                                                              APPLICATION NUMBER: FILING DATE:
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P.O. Box 2000 126 E Lincoln Avenue
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50.0%;
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Patent No. 5861484
GENERAL INFORMATION:
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                                                     Matches
                                                                  Query Match
Best Local
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                                                                                                                                                                                                                                                                                                                                                                                                                              OPERATING SYSTEM: DOS
OPERATING SYSTEM: DOS
SOFTWARE: Microsoft Wo
CURRENT APPLICATION DATA:
                                                                                                                                                                                                                                                              REGISTRATION NUMBER: 36,545
REFERENCE/DOCKET NUMBER: 18
TELECOMMUNICATION INFORMATION:
TELEPHONE: 908-594-3905
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             APPLICANT: THOMAS, KENNETH A.

APPLICANT: KENDALL, RICHARD L

TITLE OF INVENTION: INHIBITOR OF VASCULAR ENDOTHELIAL

TITLE OF INVENTION: CELL GROWTH FACTOR
                                                                                                                                       TOPOLOGY: 1: MOLECULE TYPE:
                                                                                                                                                                                        SEQUENCE CHARACTERISTICS:
LENGTH: 687 amino acids
                                                                                                                                                                                                                                                                                                                    ATTORNEY/AGENT INFORMATION:
NAME: Mark Hand, J
                                                                                                                                                                                                                                                                                                                                                                             PRIOR APPLICATION DATA:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       COMPUTER READABLE FORM:
MEDIUM TYPE: Diskette
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307 GLYTCRVRSGPS 318
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                                                    Local Similarity
les 6; Conser
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                                                                                                                                                                STRANDEDNESS:
                                                                                                                                                                                                                                                                                                                                                                                                                   APPLICATION NUMBER:
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                        GLCTCQIKTGPA 15
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P.O. Box 2000, 126 E. Lincoln Ave
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                                                     Conservative
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50.0%;
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50.0%;
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                                                    Score 43; DB Pred. No. 92; 5; Mismatches
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Pred. No.
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                                                                              Length 687;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        TELEFAX: (415)
TELEX: 910 277299
INFORMATION FOR SEQ ID NO: 1:
SEQUENCE CHARACTERISTICS:
FRNGTH: 758 amino acids
                                                                                                                                                                                              Sequence 1,
Patent No. (
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Matches
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                                                                                                      APPLICANT:
                                                   TITLE OF INVENTION:
TITLE OF INVENTION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    ATTORNEY AGENT INFORMATION:
NAME: Dreger, Walter H.
REGISTRATION NUMBER: 24,190
                CORRESPONDENCE ADDRESS:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    REFERENCE/DOCKET NUMBER: A-CTELECOMMUNICATION INFORMATION: TELEPHONE: (415) 781-1989
TELEPHAX: (415) 398-3249
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             CLASSIFICATION: 435
PRIOR APPLICATION DATA:
APPLICATION UNMBER: US 08/643,839
FILING DATE: 07-MAY-1996
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              CURRENT APPLICATION DATA:
APPLICATION NUMBER: US/08/874,678
FILING DATE: HEREWITH
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MEDIUM TYPE: Floppy disk
                                NUMBER OF SEQUENCES:
                                                                                                                                           APPLICANT:
                                                                                                                                                         APPLICANT:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   APPLICANT: Ferrara, Napoleone TITLE OF INVENTION: NOVEL INHTITLE OF INVENTION: ACTIVITY,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   CORRESPONDENCE ADDRESS:
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                                                                                                                                                                                                                                                                                                      307 GLYTCRVRSGPS 318
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              COMPUTER: IBM PC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
SOFTWARE: Patentin Release #1.0, Version #1.30
                                                                                                                                                                                                                                                                                                                                                                          Local Similarity
les 6; Conserv
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               STRANDEDNESS:
 ADDRESSEE:
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             COUNTRY: United States ZIP: 94111-4187
                                                                                                                                                                                                                                                                                                                                     4 GLCTCQIKTGPA 15
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                                                                                                                                                                                                , Application US/08643839 6100071
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                                                                                                                                         Davis-Smyth, T
Chen, Helen H.
                                                                                                    Ferrara, Napoleone
                                                                                                                        Presta, Leonard
                                                                                                                                                                                                                                                                                                                                                                          Conservative
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                                                   PRODUCTION
Hohbach, Test,
                                                                 NOVEL INHIBITORS OF VASCULAR ENDOTHELIAL GROWTH FACTOR ACTIVITY, THEIR USES AND PROCESSES FOR THEIR
                                    48
                                                                                                                                                           Terri L.
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Pred. No. 1e+02;
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Albritton & Herbert
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RESULT
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Best Local :
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TELEFAX: (415) 398-3249
TELEFX: 910 277299
INFORMATION FOR SEQ ID NO: 1:
SEQUENCE CHARACTERISTICS:
                                                                                                                                                                                                                                                                                                                                                                                                                                      GENERAL INFORMATION:
                                                                   SOFTWARE: FASTEM: Windows95
SOFTWARE: FASTEEQ for Windows Version
CURRENT APPLICATION DATA:
APPLICATION MTWTTT
FILING DATE: 07-APR-1998
PRIOR APPLICATION DATA:
APPLICATION NUMBER: PCT/JP96/02906
FILING DATE: 07-OCT-1996
                                                                                                                                                  COMPUTER READABLE FORM: MEDIUM TYPE: Diskette
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  REFERENCE/DOCKET NUMBER: A-TELECOMMUNICATION INFORMATION: TELEPHONE: (415) 781-1989
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  COMPUTER READABLE FORM:
MEDIUM TYPE: Floppy disk
COMPUTER: IBM PC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
SOFTWARE: PatentIn Release #1.0,
CURRENT APPLICATION DATA:
ARPHICATION UNMERE. IS COR 1643 83
                                                                                                                                                                                                                                                                                                                    APPLICANT: Segawa, Toshiaki
TITLE OF INVENTION: VEGF-BINDING POLYPEPTIDES
                                                                                                                                                                                                                                                                                                                                      APPLICANT:
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NAME: Dreger, Walter H.
REGISTRATION NUMBER: 24,190
                                                                                                                                                                                                                                                                                    CORRESPONDENCE ADDRESS
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                                                                                                                                                                                                                                                                                                     NUMBER OF SEQUENCES:
                                                                                                                                                                                                                  STREET: 225 F
CITY: Boston
STATE: MA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      307 GLYTCRVRSGPS 318
                                                                                                              COMPUTER: IBM Con
OPERATING SYSTEM:
                                                                                                                                                                                 ZIP:
                                                                                                                                                                                                                                   ADDRESSEE: Fish a name Andressee: 225 Franklin Street
                                                                                                                                                                                                  COUNTRY:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       APPLICATION NUMBER: US/08/643,839 FILING DATE: 07-MAY-1996 CLASSIFICATION: 435
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TOPOLOGY: unl
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5. 6270993
                                                                                                                                                                                   TRY: USA
02110-2804
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                                                                                                                                                                                                                                                                                                                                                                      Matsumoto, Tomoe
                                                                                                                                                                                                                                                                                                                                                                                                    Shibuya, Masabumi
Okamoto, Masaji
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       United States
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                                                                                                                                                                                                                                                                                                                                                                                  Niwa, Mikio
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                                                                                                                                 IBM Compatible
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                                                                 US/09/051,363
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Pred. No. 1e+0
5; Mismatches
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      1e+02;
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Gaps

APPLICATION NUMBER: 7/29 FILING DATE: 07-0CT-1995

23-JUL-1996

7/296476 JP

Length 780;

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; TOPOLOGY: lir; MOLECULE TYPE: FRAGMENT TYPE: US-09-051-363-24
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Patent No.
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Best Local Similarity
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Matches
                                                                             TELEFAX: (908) 594-4720
INFORMATION FOR SEQ ID NO:
SEQUENCE CHARACTERISTICS:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    TELEX: 200154
INFORMATION FOR SEQ ID NO:
SEQUENCE CHARACTERISTICS:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               GENERAL INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     NAME: Fraser, Ph.D., J.D., Jargistan, Number: 34,819
REFERENCE/DOCKET NUMBER: 0650
TELECOMMUNICATION INFORMATION:
TELEPHONE: 617/542-5070
TELEPAX: 617/542-8906
                                                                                                                                                                                                                                                                                              COMPUTER READABLE FORM:
MEDIUM TYPE: Floppy disk
COMPUTER: IBM PC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
SOFTWARE: Patentin Release #1.0, Version #1.25
                                                                                                                                                                              ATTORNEY/AGENT INFORMATION:
NAME: Wallen, John W.III
REGISTRATION NUMBER: 35,403
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         TITLE OF INVENTION: IN TITLE OF INVENTION: GR NUMBER OF SEQUENCES: 1 CORRESPONDENCE ADDRESS:
 MOLECULE TYPE:
                                                                                                                                  TELECOMMUNICATION INFORMATION:
TELEPHONE: (908) 594-3905
                                                                                                                                                                                                                                                                                     CURRENT APPLICATION DATA:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        APPLICANT: Thomas, Kenneth A.
APPLICANT: Kendall, Richard L
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                                                   TYPE:
                                                                                                                                                                                                                                                                                                                                                                                          COUNTRY: USA
ZIP: 07065-0907
                                                                                                                                                                                                                                                                                                                                                                                                                                       STREET: P.O. CITY: Rahway
               STRANDEDNESS: single TOPOLOGY: linear
                                                                                                                                TELEPHONE:
                                                                                                                                                                                                                                                      FILING DATE:
                                                                                                                                                                                                                                                                       APPLICATION NUMBER:
                                                                                                                                                                 REFERENCE/DOCKET NUMBER:
                                                                                                                                                                                                                                      CLASSIFICATION:
                                                               ENGTH:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                           ADDRESSEE:
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5712380
                                               amino acid
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GY: linear
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P.O. Box 2000 126 E Lincoln Avenue
                                                               780 amino acids
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protein
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50.0%;
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Best Local Similarity
Thehes 6; Conserve
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US-08-786-164-14
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                                                                                                                                                                                                                                                                                                      US-08-786-164-14
                                                                                                                RESULT
Sequence 5, Application US/08340011
Patent No. 5776755
GENERAL INFORMATION:
APPLICANT: Alitalo, et al.
TITLE OF INVENTION: FLT4, A NOVEL RECEPTOR TYROSIN KINASE
NUMBER OF SEQUENCES: 20
                                                                                                                                                                                                                                         Query Match
Best Local
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                                                                                                                                                                                                                                                                                                                                                                               SEQUENCE CHARACTERISTICS:
LENGTH: 780 amino acids
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         ATTORNEY/AGENT INFORMATION:
NAME: Mark Hand, J
REGISTRATION NUMBER: 36,9
REFERENCE/DOCKET NUMBER:
                                                                                                                                                                                                                                                                                                                    TOPOLOGY: 1: MOLECULE TYPE:
                                                                                                                                                                                                                                                                                                                                                                                                                                                              TELEPHONE: 908-594-3905
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                SOFTWARE: Microsoft WO CURRENT APPLICATION DATA:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               COMPUTER READABLE FORM: MEDIUM TYPE: Diskett
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            NUMBER OF SEQUENCES: 1
CORRESPONDENCE ADDRESS:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      APPLICANT: THOMAS, KENNETH A.

APPLICANT: KENDALL, RICHARD L

TITLE OF INVENTION: INHIBITOR OF VASCULAR ENDOTHELIAL

TITLE OF INVENTION: CELL GROWTH FACTOR
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        PRIOR APPLICATION DATA:
                                                                                                                                                            307 GLYTCRVRSGPS 318
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         COMPUTER: 15H DOS
OPERATING SYSTEM: DOS
OPERATING SYSTEM: DOS
OPERATING SYSTEM: DOS
OPERATING JOHN DATA: 079/19
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                                                                                                                                                                                                                         Local Similarity
nes 6; Conserv
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    APPLICATION NUMBER: US/0 FILING DATE: 21-JAN-1997 CLASSIFICATION: 435
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                COUNTRY: USA
ZIP: 07065-0900
                                                                                                                                                                                                                                                                                                                                                STRANDEDNESS:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       FILING DATE:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 STATE:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            CITY: Rahway
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         ADDRESSEE: Merck & Co., Inc. STREET: P.O. Box 2000, 126 E. Lincoln Ave.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        APPLICATION NUMBER:
                                                                                                                                                                                        4 GLCTCQIKTGPA 15
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                                                                                                                                                                                                                                                                                                                                                                    amino acid
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50.0%;
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50.0%;
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Pred. No. 1e+02;
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Pred. No. 1e+02;
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                                                                                                                                                                                                                                                     Length 780;
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                                                                                                                                                                                                                                                                                                                                                Patent No.
                                                                                                                                                                                                                                                                                                                                                             Sequence 5,
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INFORMATION FOR SEQ ID NO:
            COMPUTER READABLE FORM:
MEDIUM TYPE: Floppy disk
COMPUTER: IBM PC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
                                                                                                                                SEQUENCE CHARACTERISTICS:
LENGTH: 1311 amino acids
                                                                                                                                                                              APPLICANT: Matikainen, Marja-Terttu
TITLE OF INVENTION: FLT4, A RECEPTO
TITLE OF INVENTION: THEREOF
NUMBER OF SEQUENCES: 20
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             OPERATING SYSTEM: PC-DOS/MS-DOS
SOFTWARE: PatentIn Release #1.0, Version #1.25
CURRENT APPLICATION DATA:
                                                                                                                                                                                                                                                          APPLICANT:
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                                                                                                                                                                                                                                                                                                                   APPLICANT:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      TELECOMMUNICATION INFORMATION: TELEPHONE: 312/474-6300
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           PRIOR APPLICATION DATA:
APPLICATION NUMBER: 07/959,951
FILING DATE: 09-OCT-1992
ATTORNEY/AGENT INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        COMPUTER READABLE FORM:
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                                                                                                                                                                                                                                                                                                                                                                                                                                      317 GLYTCRVRSGPS 328
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               STRANDEDNESS: S11
                                                                                      COUNTRY:
                                                                                                       STATE:
                                                                                                                     STREET: 6300 :
CITY: Chicago
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Local Similarity
les 6; Conserv
   SOFTWARE:
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               NAME: Meyers, Thomas C. REGISTRATION NUMBER: 36,989
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       FILING DATE:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   APPLICATION NUMBER: US/08/340,01:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            COMPUTER:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         MEDIUM TYPE: Floppy disk
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      COUNTRY:
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                                                                           60606-6402
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                                                                                        United States of
                                                                                                                                                                                                                                                                                   Alitalo, Kari
Aprelikova, Olga
Pajusola, Katri
                                                                                                                                                                                                                                                    Armstrong, Elina
Korhonen, Jaana
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                                                                                                                                                                                                                                       Kaipainen, Arja
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SYSTEM: PC-DOS/MS-DOS
PatentIn Release #1.0, Version #1.25
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Tower, 233
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                                                                                         America
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Pred. No. 1
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                                                                                                                                 Gerstein, Murray & South Wacker Drive
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South Wacker Drive
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; MOLECULE TYPE: US-08-901-710-5
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Best Local Similarity
Thes 6; Conserve
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Sequence
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INFORMATION FOR SEQ ID NO:
             APPLICATION NUMBER: US/08/750, FILING DAYE: 12-MAY-197
CLASSIFICATION: 536
ATTORNEY/AGENT INFORMATION:
NAME: Jackson Esq., David A.
REGISTRATION NUMBER: 26,742
REFERENCE/DOCKET NUMBER: 1396-
                                                                                                                             COMPUTER READABLE FORM:
MEDIUM TYPE: Floppy disk
COMPUTER: IBM PC compatible
COMPUTER: PC-DOS/MS-DOS
SOFTWARE: Patentin Release #1.0, Version #1.30
CURRENT APPLICATION DATA:
                                                                                                                                                                                                                                                                                                                     TITLE OF INVENTION: FLT-4-(FMS-LIKE TYROSINE-KINASE),
TITLE OF INVENTION: FLT-15, VARIANTS THEREOF USED AS GROWTH FACTOR INHIBITORS
NUMBER OF SEQUENCES: 17
CORRESPONDENCE ADDRESS:
ADDRESSEE: Klauber & Jackson
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        PRIOR APPLICATION DATA:
APPLICATION NUMBER: 07/959,951
FILING DATE: 09-0CT-1992
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TELECOMMUNICATION INFORMATION:
TELEPHONE: 312/474-6300
TELEFAX: 312/474-0448
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APPLICATION NUMBER: 08/257,754
FILING DATE: 09-JUL-1994
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         PRIOR APPLICATION DATA:

PRIOR APPLICATION NIMBER: 08/340,011
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TELECOMMUNICATION INFORMATION:
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                                                                                                                                                                                                                                      COUNTRY: CZIP: 07601
                                                                                                                                                                                                                                                                    STATE:
                                                                                                                                                                                                                                                                                                     STREET:
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                                                                                                                                                                                                                                                                                                   411 Hackensack Avenue, 4th Floor
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                                                                                                                                                                                                                                                      USA
                                                                                                                                                                                                                                                                                                                                                                                                                                   Charnock-Jones, David S. Boocock, Christine A.
                                                                                                                                                                                                                                                                                                                                                                                                     Sharkey, Andrew M. Smith, Stephen K.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Conservative
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David A.
38,153
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50.0%;
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Pred. No. 1
               .396-1-001
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1.6e+02;
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; TOPOLOGY: lin; MOLECULE TYPE: HYPOTHETICAL: US-08-750-141A-3
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TELEFAX: 201-343-1684
TELEX: 133521
INFORMATION FOR SEQ ID NO: 3:
SEQUENCE CHARACTERISTICS:
LENGTH: 1338 amino acids
LENGTH: 1338 amino acids
TYPE: amino acid
STRANDEDNESS: single
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; MOLECULE TYPE: US-08-874-678-33
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                                                                                     NAME: Dreger, Walter H.

REGISTRATION NUMBER: 24,190
REFERENCE/DOCKET NUMBER: A-63291-1/WHD
TELECOMMUNICATION INFORMATION:
TELEPHONE: (415) 781-1989
TELEEAX: (415) 398-3249
TELEEX: 910 277299
TELEX: 910 277299
INFORMATION FOR SEQ ID NO: 33:
SEQUENCE CHARACTERISTICS:
LENGTH: 1362 amino acids
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Best Local S
Matches 6
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       APPLICANT: Presta, Leonard
APPLICANT: Perrara, Napoleone
TITLE OF INVENTION: ACTIVITY, THEIR USES AND PROCESSES FOR THEIR PRODUCTION
'NUMBER OF SEQUENCES: 48
CORRESPONDENCE ADDRESS:
CORRESPONDENCE ADDRESS:
                                                                                                                                                                                                                                                                         CLASSIFICATION: 435

PRIOR APPLICATION DATA:
APPLICATION NUMBER: US 08/643,839
FILING DATE: 07-MAY-1996
ATTORNEY/AGENT INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                           MEDIUM TYPE: Floppy disk
COMPOTER: IBM PC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
SOFTWARE: Patentin Release #1.0, Version #1.30
CURRENT APPLICATION DATA:
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CITY: San Francisco
STATE: California
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                                    STRANDEDNESS:
TOPOLOGY: unl
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                                                                         TYPE: amino acid
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Chen, Helen H.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Davis-Smyth, Terri L.
                                    unknown
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NO
                 protein
                                                      unknown
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50.0%;
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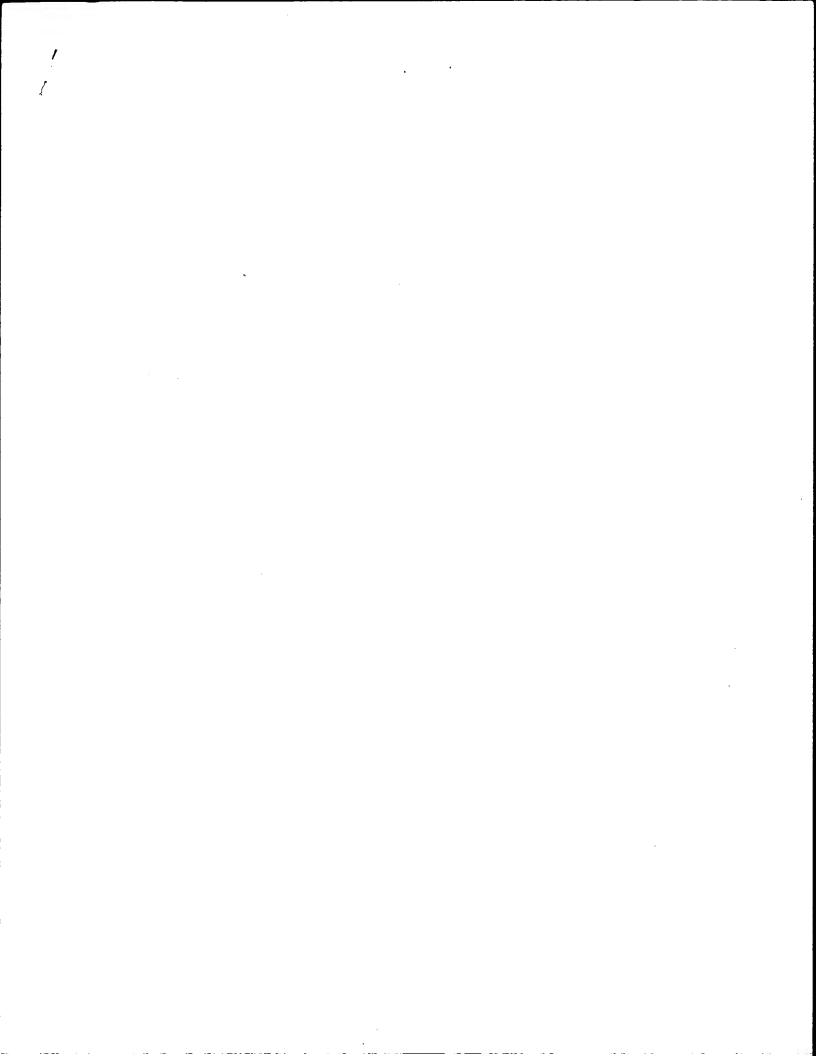
Query Match

47.88;

Score 43;

DB 2;

Length 1362;



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Result
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Maximum DB
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Perfect score:
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US-09-273-685-60
US-08-451-60-22
US-08-451-60-22
US-08-451-60-22
US-08-451-63-23
US-08-451-30-24
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US-08-353-133-3
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60, Appl
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Query Match

31.2%;

Score 5; DB 1;

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                                                                                                                                       Sequence 15, Application US/08763226C Patent No. 6057291
                                                                                                                                                                                                                                                                                                                   Query Match
Best Local
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GENERAL INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Patent No.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   APPLICANT: Hancock, ROUGE -
APPLICANT: Karunaratne, Nedra
TITLE OF INVENTION: ANTIMICROBIAL CATIONIC PEPTIDES
NUMBER OF SEQUENCES: 37
CORRESPONDENCE ADDRESS:
ADDRESSEE: Fish & Richardson P.C.
STREET: 4225 Executive Square, Suite 1400
     TITLE OF INVENTION: ANTIMICROBIAL CATIONIC |
NUMBER OF SEQUENCES: 39
CORRESPONDENCE ADDRESS:
ADDRESSEE: Fish & Richardson P.C.
STREET: 4225 Executive Square, Suite 1400
                                                                    APPLICANT: Hancock, Robert E. W.
APPLICANT: Karunaratne, Nedra
TITLE OF INVENTION: ANTIMICROBIAL CATIONIC PEPTIDES
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     APPLICATION NUMBER: US/08/658, FILING DATE: May 31, 1996
PRIOR APPLICATION DATA:
APPLICATION NUMBER: 08/460,464
APPLICATION NUMBER: 2, 1995
ATTORNEY/AGENT INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                 MOLECULE TYPE:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            TELEPHONE: 619/678-5070
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OPERATING SYSTEM:
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CITY:
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REGISTRATION NUMBER: 38,347
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SOFTWARE: FastSEQ for Windows Version 2.0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             REFERENCE/DOCKET NUMBER:
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Patent No. 6297215
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Matches
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Best Local Similarity
                                                                                                                                                                                                                                                                                                                                                                                                    GENERAL INFORMATION:
APPLICANT: Hancock, Robert E. W.
APPLICANT: Karunaratne, Nedra
TITLE OF INVENTION: ANIMICROBIAL CATIONIC PEPTIDES
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       APPLICATION NUMBER: 08/658,857
APPLICATION NUMBER: 31-MAY-1996
ATTORNEY/AGENT INFORMATION:
NAME: Haile, Lisa A.
REGISTRATION NUMBER: 38,347
REFERENCE/DOCKET NUMBER: 0742
TELECOMMUNICATION INFORMATION:
TELEPHONE: 619/678-5070
   ATTORNEY/AGENT INFORMATION:
NAME: Haile, Lisa A.
REGISTRATION NUMBER: 38,347
REFERENCE/DOCKET NUMBER: 0742
TELECOMMUNICATION INFORMATION:
TELEPHONE: 619,678-5070
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 INFORMATION FOR SEQ ID NO: SEQUENCE CHARACTERISTICS:
                                                                                                                                                                 COMPUTER: IBM Compatible
OPERATING SYSTEM: Windows95
SOFTWARE: FastSEQ for Windows Version 2.0
CURRENT APPLICATION DATA:
APPLICATION NUMBER: US/09/307,200
                                                                                                                                       PRIOR APPLICATION DATA:
                                                                                                                                                                                                                                                                 ZIP: 92037
COMPUTER READABLE FORM:
                                                                                                                                                                                                                                                                                                                                                                           NUMBER OF SEQUENCES:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           APPLICATION NUMBER: US/08/763,226C FILING DATE: 10-DEC-1996 PRIOR APPLICATION DATA: APPLICATION NUMBER: 08/658,857 FILING DATE: 31-MAY-1996
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COMPUTER READABLE FORM:
MEDIUM TYPE: Diskett
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OPERATING SYSTEM: Windows95
SOFTWARE: FastSEQ for Windows Version
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)GY: linear
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; Sequence 60, Application US/09273685
            US-09-273-685-60
                                                                                                                                                                                         US-08-488-161-60
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                                                                                                                                    Query Match
Best Local
                                                                                                                                                                                                                                                                                                                                                          CURRENT APPLICATION. NUMBER: US/08/400, APPLICATION. NUMBER: 07-JUN-1995. FILING DATE: 07-JUN-1995. CLASSIFICATION: 436. ATTORNEY/AGENT INFORMATION: NAME: Misrock, S. Leslie. 18,872. 1101
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        INFORMATION FOR SEQ ID NO: SEQUENCE CHARACTERISTICS:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  GENERAL INFORMATION:
                                                                                                                                                                                                                                                                                     INFORMATION FOR SEQ ID NO:
                                                                                                                                                                                                                                                                                                                                                                                                                                           COMPUTER READABLE FORM:
MEDIUM TYPE: Floppy disk
COMPUTER: IBM PC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
SOFTWARE: PatentIn Release #1.0, Version #1.30
CURRENT APPLICATION DATA:
                                                                                                                                                                                                                                                                                                                                        REGISTRATION NUMBER: 18,872
REFERENCE/DOCKET NUMBER: 11:
TELECOMMUNICATION INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               NUMBER OF SEQUENCES: 1
CORRESPONDENCE ADDRESS:
                                                                                                                                                                                                    MOLECULE TYPE:
                                                                                                                                                                                                                                                                     SEQUENCE CHARACTERISTICS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         TITLE OF INVENTION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      APPLICANT:
                                                                                                                                                                                                                           LENGTH: 43 amino acids
TYPE: amino acid
STRANDEDNESS: single
                                                                 39 IKTGP 43
                                                                                           10 IKTGP 14
                                                                                                                                                                                                                                                                                                             TELEFAX:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               COUNTRY:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          CITY: New York
STATE: New York
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                                                                                                                                   Local
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                                                                                                                      Similarity 5; Conserv
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(212) 869-9741/8864
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100.0%; Pr
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great No. 33;
great No. 33;
great No. 33;
                                                                                                                                  Score 5;
Pred. No.
                                                                                                                                                                                                                                                                                                                                                       1101-176
                                                                                                                      Mismatches
                                                                                                                                  DB 2;
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                                                                                                                                              Length 43;
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; LENGTH: 43 amino acids
; TYPE: amino acid
; STRANDEDNESS: single
; TOPOLOGY: linear
; MOLECULE TYPE: peptide
US-09-273-685-60
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Best Local Similarity
"~+~hes 5; Conserva
                                                                                                                                                                                                                                                                                               PCT-US95-11934-60
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GENERAL INFORMATION:
APPLICANT: Cyttogen Corporation
TITLE OF INVENTION: Antigen Bindin
TITLE OF INVENTION: Peptide Librar
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GENERAL INFORMATION:
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         COMPUTER READABLE FORM:
MEDIUM TYPE: Floppy disk
COMPUTER: IBM PC compatible
OPERATING SYSTEM: PC-DDS/MS-DOS
SOFTWARE: PatentIn Release #1.0, Version #1.30
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                                                                                                                                                                                                     NUMBER OF SEQUENCES:
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CURRENT APPLICATION DATA:
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COUNTRY: Usa
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TELEFAX: 66141 F
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COMPUTER: IBM PC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
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                                                                                           ZIP: 10036
                                                                                                        COUNTRY:
                                                                                                                           STATE:
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                                                                                                                           New York
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(212) 869-9741/8864
                                                                                                          USA
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100.0%; F1
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Peptide Libraries
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tive 0; Mismatches
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TELEFAX: (212) 869-974
TELEX: 66141 PENNIE
INFORMATION FOR SEQ ID NO:
                                                                                                     PRIOR APPLICATION DATA:
APPLICATION NUMBER: PCT/JP95/01599
FILING DATE: 10-AUG-1995
PRIOR APPLICATION DATA:
APPLICATION NUMBER: JP 7-093989
FILING DATE: 19-AUG-1995
PRIOR APPLICATION DATA:
                                                                                                                                                                                                                                                                                                                                                        COMPUTER READABLE FORM:
MEDIUM TYPE: Floppy disk
                                                     PRIOR APPLICATION DATA:
                                                                                                                                                                                                                                                                                      SOFTWARE: PatentIn Release #1.0, Version #1.30 CURRENT APPLICATION DATA:
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ADDRESSEE: DIKE, BRONSTEIN, ROBERTS & CUSHMAN, LLP
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REFERENCE/DOCKET NUMBER: 11
TELECOMMUNICATION INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  APPLICANT: Fukusumi, Shoji
APPLICANT: Ohgi, Kazuhiro
TITLE OF INVENTION: G PROTEIN COUPLED RECEPTOR PROTEIN,
TITLE OF INVENTION: PRODUCTION, AND USE THEREOF
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         NUMBER OF SEQUENCES:
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                                   APPLICATION NUMBER:
                                                                       APPLICATION NUMBER: JP 7-057186 FILING DATE: 16-MAR-1995
                                                                                                                                                                                                                                                 APPLICATION NUMBER: US/0 FILING DATE: 14-SEP-1995
                                                                                                                                                                                                                                    CLASSIFICATION: 536
                                                                                                                                                                                                                                                                                                                       COMPUTER: IBM PC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
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TYPE: amino acid
STRANDEDNESS: single
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                40, Application US/08513974B
6114139
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(212) 869-9741/8864
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20-SEP-1995
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                    20-JAN-1995
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                                      JP 7-007177
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Mismatches
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; MOLECULE TYPE:
US-08-513-974B-340
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Best Local Similarity
----hes 5; Conserv?
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                                                                                                                                                                                                                                                                                                                                                                                             GENERAL INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 TELEPHONE: 617-523-340
TELEFAX: 617-523-6440
INFORMATION FOR SEQ ID NO:
SEQUENCE CHARACTERISTICS:
                                                 MEDIUM TYPE: Floppy disk
COMPUTER: IBM PC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
SOFTWARE: Patentin Release #1.0, Version #1.25
CURRENT APPLICATION DATA:
                                                                                                                     COMPUTER READABLE FORM:
MEDIUM TYPE: Floppy
                                                                                                                                                                                                                                                                  NUMBER OF SEQUENCES: 1
CORRESPONDENCE ADDRESS:
                                                                                                                                                                                                                                                                                                 TITLE OF INVENTION:
TITLE OF INVENTION:
TITLE OF INVENTION:
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TELECOMMUNICATION INFORMATION:
TELEPHONE: 617-523-3400
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APPLICATION NUMBER:
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CLASSIFICATION: 514
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                                                                                                                                                                                                                                E: Richard R. Muccino P.O. Box 1267
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11-AUG-1994
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                                                                                                                                                                                                                                                                                                   Hilliam R.

11. Robert K.

12. Analogs of Glycoprotein Hormones Having

13. Analogs of Glycoprotein Hormones Having

14. Altered Receptor Binding Specificity and Activity and

15. Methods For Preparing and Using Same
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        31.2%;
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                                   US/08/425,673
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Matches Query Match Best Local

Local Similarity

PCT-US95-11934-60

MOLECULE TYPE:

TOPOLOGY:

linear

TELEPHONE:

CLASSIFICATION:

Misrock,

US-08-513-974B-340

Patent No. Sequence 340,

GENERAL INFORMATION:

Hosoya,

APPLICANT:

COUNTRY:

USA

02109

STREET:

Boston

MA

FILING DATE: 18-JUN-1991 ATTORNEY/AGENT INFORMATION: PRIOR APPLICATION DATA:

APPLICATION NUMBER:

US 07/717,151

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RESULT 10
US-08-907-800A-2
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US-08-425-673-5
US-08-907-800A-2
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Best Local (
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             GENERAL INFORMATION:
APPLICANT: SUN, Tung-Tien
TITLE OF INVENTION: METHOD AND VECTOR FOR EXPRESSION AND
TITLE OF INVENTION: ISOLATION OF BIOLOGICALLY ACTIVE MOLECULES IN URINE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    TELEFAX: (609) 466-2760
INFORMATION FOR SEQ ID NO: 5:
SEQUENCE CHARACTERISTICS:
                                                                                                                      TELEPHONE: 202-628-5197
TELEFAX: 202-737-3528
INFORMATION FOR SEQ ID NO: 2:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          REFERENCE/DOCKET NUMBER: UM
TELECOMMUNICATION INFORMATION:
TELEPHONE: (609) 466-3407
                                                                                                                                                                                                                                                                                                                                                                          COMPUTER READABLE FORM:
MEDIUM TYPE: Floppy disk
COMPUTER: IBM PC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
SOFTWARE: Patentin Release #1.0, Version #1.30
CURRENT APPLICATION DATA:
                                                                                                                                                    REGISTRATION NUMBÉR: 25,618
REFERENCE/DOCKET NUMBER: SUN
TELECOMMUNICATION INFORMATION:
TELEPHONE: 202-628-5197
                                                                                                                                                                                                                                              PRIOR APPLICATION DATA:
APPLICATION NUMBER: US 08/464,961
FILING DATE: 05-JUN-1995
ATTORNEY/AGENT INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           NUMBER OF SEQUENCES: 2
CORRESPONDENCE ADDRESS:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   MOLECULE TYPE: peptide HYPOTHETICAL: NO
                MOLECULE TYPE:
                                                                                                     SEQUENCE CHARACTERISTICS
                                                                                                                                                                                                                                                                                                                                          APPLICATION NUMBER: FILING DATE: 08-AUG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           ADDRESSEE: BROWDY AND NEIMARK, P.L.L.C. STREET: 419 Seventh Street, N.W., Suite 300
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     TYPE: amino acid
                                 TOPOLOGY:
                                              STRANDEDNESS:
                                                                                                                                                                                                              NAME: BROWDY, ROGER L. REGISTRATION NUMBER: 2
                                                                                                                                                                                                                                                                                                                           CLASSIFICATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        COUNTRY:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           STATE:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 93 CQIKT 97
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les 5; Conserv
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  NAME: Muccino, Richard R. REGISTRATION NUMBER: 32,5
                                                                                    LENGTH:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       8 CQIKT 12
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                                                               : 184 amino acids amino acid
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                                                                                                                                                                                                                                                                                                                                   UMBER: US/08/907,800A
08-AUG-1997
               protein
                                                single
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Query Match
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                                                                                 RESULT 12
US-08-938-534-22
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US-08-431-080-22
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                               Sequence 22, Application US/08938534 Patent No. 5916752 GENERAL INFORMATION:
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GENERAL INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Sequence 22, Application US/08431080
                                                                                                                                                                                                                 Matches
                                                                                                                                                                                                                                 Query Match
Best Local Similarity
                                                                                                                                                                                                                                                                                                                                                                                                    INFORMATION FOR SEQ ID NO:
                                                                                                                                                                                                                                                                                                                                                                                                                                NAME: Parker, David L.
REGISTRATION NUMBER: 32,165
REFERENCE/DOCKET NUMBER: ARCD:155/PAR
TELECOMMUNICATION INFORMATION:
TELEPHONE: (512) 418-3000
TELEFAX: (713) 789-2679
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                COMPUTER READABLE FORM:
MEDIUM TYPE: Floppy disk
COMPUTER: IBM PC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS/ASCII
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      APPLICANT: Gottschling, Daniel E. APPLICANT: Singer, Miriam S. TITLE OF INVENTION: Telomerase Co
                                                                                                                                                                                                                                                                                                                                                              SEQUENCE CHARACTERISTICS:
LENGTH: 215 amino acids
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 FILING DATE: October 20, 1994 CLASSIFICATION: 514 ATTORNEY/AGENT INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        NUMBER OF SEQUENCES: CORRESPONDENCE ADDRESS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    CLASSIFICATION: 514
PRIOR APPLICATION DATA:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   SOFTWARE: PatentIn Release #1.0, Version #1.30 CURRENT APPLICATION DATA:
               APPLICANT:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           170 LVVGL 174
                                                                                                                                                                                                                                                                                                                                                                                                      TELEFAX: (, _ 79-0924
                                                                                                                                                   38 IKTGP 42
                                                                                                                                                                                10 IKTGP 14
                                                                                                                                                                                                                                                                                                                                TYPE: amino acid
STRANDEDNESS: sir
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     APPLICATION NUMBER: SN 08/326,781
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       APPLICATION NUMBER:
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        CITY: Houston
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        E: Arnold, White & Durkee P.O. Box 4433
Gottschling, Daniel E. Singer, Miriam S.
                                                                                                                                                                                                                 Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         UNITED STATES OF AMERICA
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                                                                                                                                                                                                                                   100.0%;
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o. 2.1e+02;
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CORRESPONDENCE ADDRESS: FITLE OF INVENTION:

OF SEQUENCES:

Telomerase Compositions and Methods 32

STREET: ADDRESSEE:

P.O. Box 4433

CURRENT APPLICATION DATA

COMPUTER: IBM PC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
SOFTWARE: PatentIn Release #1.0, Version #1.30

MEDIUM TYPE: COMPUTER: I

Floppy disk

APPLICATION NUMBER: FILING DATE: 01-JUI

01-JUL-1996

US/08/674,168

Arnold, White & Durkee

Houston

TEXAS

UNITED STATES OF AMERICA

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US-08-938-534-22
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                                                                                                                                                                                                                                                                                                                   Sequence 32, Appr. 580441
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Matches
                                                                                                                                                                                                                                                                                       GENERAL INFORMATION:
APPLICANT: MORIYA,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        INFORMATION FOR SEQ ID NO:
SEQUENCE CHARACTERISTICS:
LENGTH: 215 amino acids
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        TELECOMMUNICATION INFORMATION:
TELEPHONE: (512) 418-3000
TELEPAN: (713) 789-2679
TELEX: 79-0924
COMPUTER READABLE FORM:
                                                                                                                                                        APPLICANT: SUGIMOTO, MASAKAZU
TITLE OF INVENTION: METHOD OF AMPLIFYING GENE USING
TITLE OF INVENTION: ARTIFICIAL TRANSPOSON
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    APPLICATION NUMBER: SN 08
FILING DATE: October 20,
ATTORNEY/AGENT INFORMATION:
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PRIOR APPLICATION DATA:
APPLICATION NUMBER:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  COMPUTER READABLE FORM:
MEDIUM TYPE: Floppy disk
                                                                                                                            CORRESPONDENCE ADDRESS:
                                                                                                                                                                                                                                          APPLICANT:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 SOFTWARE: PatentIn Release #1.0, Version #1.30 CURRENT APPLICATION DATA:
                                                                                                                                           NUMBER OF SEQUENCES:
                                                                                                                                                                                                          APPLICANT:
                                                                                                                                                                                                                           APPLICANT:
                                                                                                                                                                                                                                                                         APPLICANT:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           COUNTRY: U...
                                      ADDRESSEE: OBLON, SPIVAN, FIGHWAY, SUITE # 400 CITY: ARLINGTON
                                                                                                                                                                                                                                                                                                                                                                                                                     38 IKTGP 42
                                                                                                                                                                                                                                                                                                                                                                                                                                                 10 IKTGP 14
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Local Similarity
nes 5; Conser
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       NAME: Parker, David L.
REGISTRATION NUMBER: 32,165
REFERENCE/DOCKET NUMBER: ARCD:155/PAR
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             TYPE: amino acid
STRANDEDNESS: sir
                            COUNTRY:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       FILING DATE:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     APPLICATION NUMBER: FILING DATE: 26-SE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 COMPUTER: IBM PC compatible OPERATING SYSTEM: PC-DOS/MS-DOS/ASCII
                                                                                                                                                                                                                                                                                                                                     Application US/08674168
                                                                                                                                                                                                                                       MATSUI, Hiroshi
YOKOZEKI, Kenzo
HIRANO, Seiko
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Conservative
                                                                                                                                                                                                                         HAYAKAWA, Atsushi
                                                                                                                                                                                                          IZUI, Masako
                                                                                                                                                                                                                                                                                        MORIYA, Mika
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                linear
                                                                                                          OBLON, SPIVAK, McCLELLAND, MAIER & NEUSTADT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   26-SEP-1997
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100.0%; F1
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              No.
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NO. 2.4e+02;
0;
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Best Local Similarity
Thes 5; Conserv
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Patent No.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Sequence 11,
                        TELEFAX: 703-413-2220 INFORMATION FOR SEQ ID NO: 11:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                               GENERAL INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  INFORMATION FOR SEQ ID NO: SEQUENCE CHARACTERISTICS:
                                                                                                                                                                                                                                  COMPUTER: IBM PC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
SOFTWARE: PatentIn Release #1.0, Version #1.30
CURRENT APPLICATION DATA:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     APPLICATION NUMBER: JP 8-325659 FILING DATE: 05-DEC-1996 ATTORNEY/AGENT INFORMATION:
                                                                                                                                                                    APPLICATION NUMBER: US/08/985,908
FILING DATE: 05-DEC-1997
CLASSIFICATION: 435
PRIOR APPLICATION DATA:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       PRIOR APPLICATION DATA:
APPLICATION NUMBER: JP 7-166541
FILING DATE: 30-JUN-1995
ATTORNEY/AGENT INFORMATION:
             SEQUENCE CHARACTERISTICS
                                                          TELECOMMUNICATION INFORMATION: TELEPHONE: 703-413-3000
                                                                                                                                                                                                                                                                                                                 COMPUTER READABLE FORM:
                                                                                                                                                                                                                                                                                                                                                                                                                CORRESPONDENCE ADDRESS
                                                                                                                                                                                                                                                                                                                                                                                                                                 NUMBER OF SEQUENCES:
                                                                                                                                                                                                                                                                                                                                                                                                                                           APPLICANT: MASAYUKI ARAKI, MASAKAZU SUGIMOTO, YASUHIKO YOSHIHARA, AND TSUYOSH
TITLE OF INVENTION: METHOD FOR PRODUCING L-LYSINE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          238 LVVGL 242
                            TELEPHONE: 703-413-2220
                                                                                        NAME: NORMAN F. OBLON REGISTRATION NUMBER: 2
                                                                                                                                                                                                                                                                                                  MEDIUM TYPE: Floppy disk
                                                                                                                                                                                                                                                                                                                                                   COUNTRY:
                                                                                                                                                                                                                                                                                                                                                                                 ADDRESSEE: OBLON, SPIVAK, MCCLELLAND, MAIER & NEUSTADT, P.C. STREET: 1755 S. JEFFERSON DAVIS HIGHWAY, FOURTH FLOOR
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   STRANDEDNESS:
TOPOLOGY: 11
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 TELEPHONE: (703) 413-3000
TELEFAX: (703) 413-2220
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               CLASSIFICATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         1 LVVGL 5
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Pred. No.
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COMPUTER READABLE FORM:

MEDIUM TYPE: Floppy disk
COMPUTER: IEM PC compatible
OPERATING SYSTEM: PC-LOS/MS-DOS
SOFTWARE: PATENTIN Release #1.0, Version #1.30
CURRENT APPLICATION DATA:
APPLICATION UMBER: US/08/852,730
FILING DATE: 05-07-1997
CLASSIFICATION UMBER: JP 8-142812
FRICH APPLICATION UMBER: JP 8-142812
APPLICATION NUMBER: JP 8-142812
FILING DATE: 05-UN-1996
ATTORNEY/AGENT INFORMATION:
NAME: NORMAN F. OBLON
REGISTRATION NUMBER: 24.618
TELEPHONE: 703-413-3000
TELEPHONE: 703-413-3000
INFORMATION FOR SEQ ID NO: 24:
SEQUENCE CHARACTERISTICS:
LENGTH: 248 amino acids
TYPE: amino acids
TYPE: amino acids
TOPOLOGY: linear
MOLECULE TYPE: protein
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        ; MOLECULE TYPE: protein US-08-985-908-11
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US-08-852-730-24
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Search completed: May 8, 2002, 11:47:22 Job time: 113 sec
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Query Match 31.2%; Score 5; DB 3; Le Best Local Similarity 100.0%; Pred. No. 2.7e+02; Matches 5; Conservative 0; Mismatches 0;
                                                                                                                                                                                            Query Match

Best Local Similarity

Matches 5; Conserv
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           APPLICANT: SEIKO HIRANO, MASAKAZU SUGIMOTO, EIICHI NAKANO,
APPLICANT: MASAKO IZUI, ATSUSHI HAYAKAWA, YASUHIKO YOSHIHARA, AND TSUYOSHI
APPLICANT: NAKAMATSU
TITLE OF INVENTION: METHOD OF PRODUCING L-LYSINE
NUMBER OF SEQUENCES: 24
CORRESPONDENCES: 26
CORRESPONDENCE OBLON, SPIVAK, MCCLELLAND, MAIER AND NEUSTADT, P.C.
STREET: 055 S. JEFFERSON DAVIS HIGHWAY
CITY: ARLINGTON
STATE: VA
TIP: 2026
CONDUCTED BEACAGIF FORM:
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                                                                                                         238 LVVGL 242
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                                                                                                                                                    1 LVVGL 5
                                                                                                                                                                                            31.2%; Score 5; DB 3; Le ilarity 100.0%; Pred. No. 2.7e+02; Conservative 0; Mismatches 0;
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